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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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JULY, 1941

Vol. 94, No. 7

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A CASE - SHEPPERD - MANN PUBLICATION

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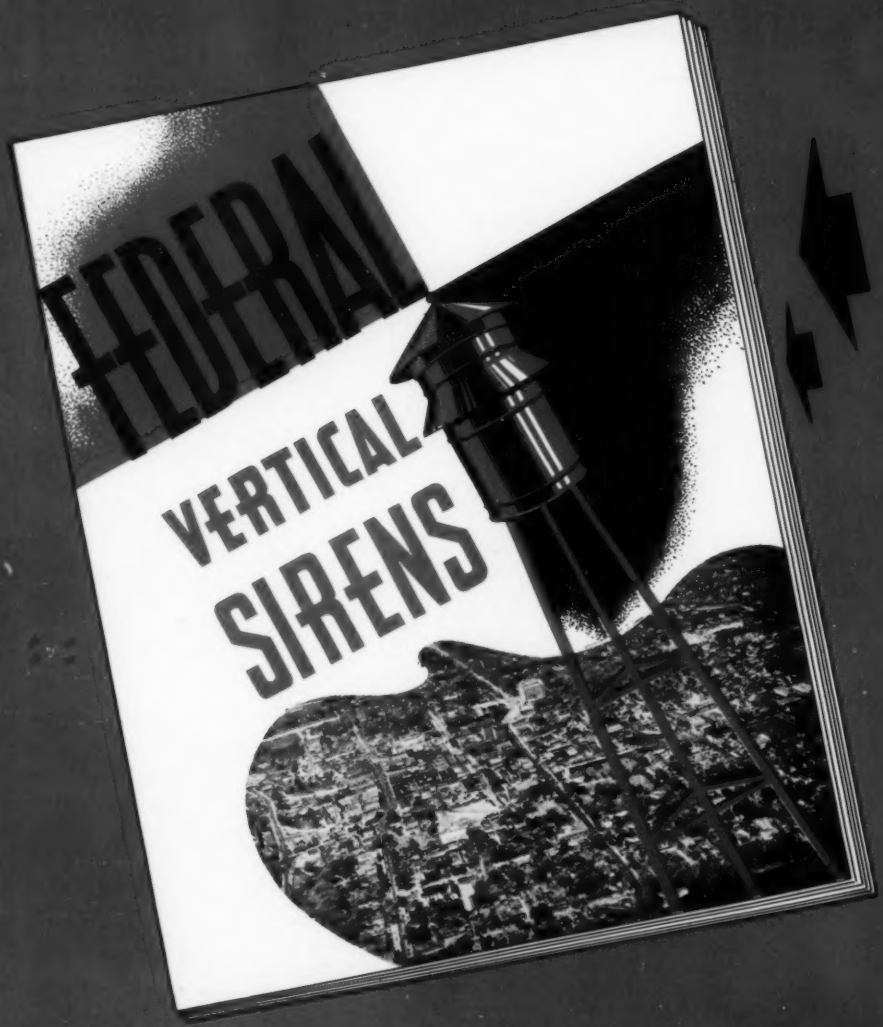

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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ABC

FRED SHEPPERD
Editor
N. N. WOLPERT, *Assistant Editor*

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FIRE," says the London Evening Standard "is the first enemy. No authority in any town and city should be satisfied with existing services. They should be constantly extended."

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● In the advertising pages of our August Convention issue, practically every manufacturer will have something new and worthwhile to present. Don't miss it!

The Publishers

FIRE ENGINEERING

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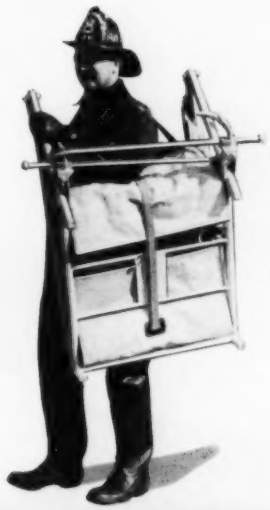

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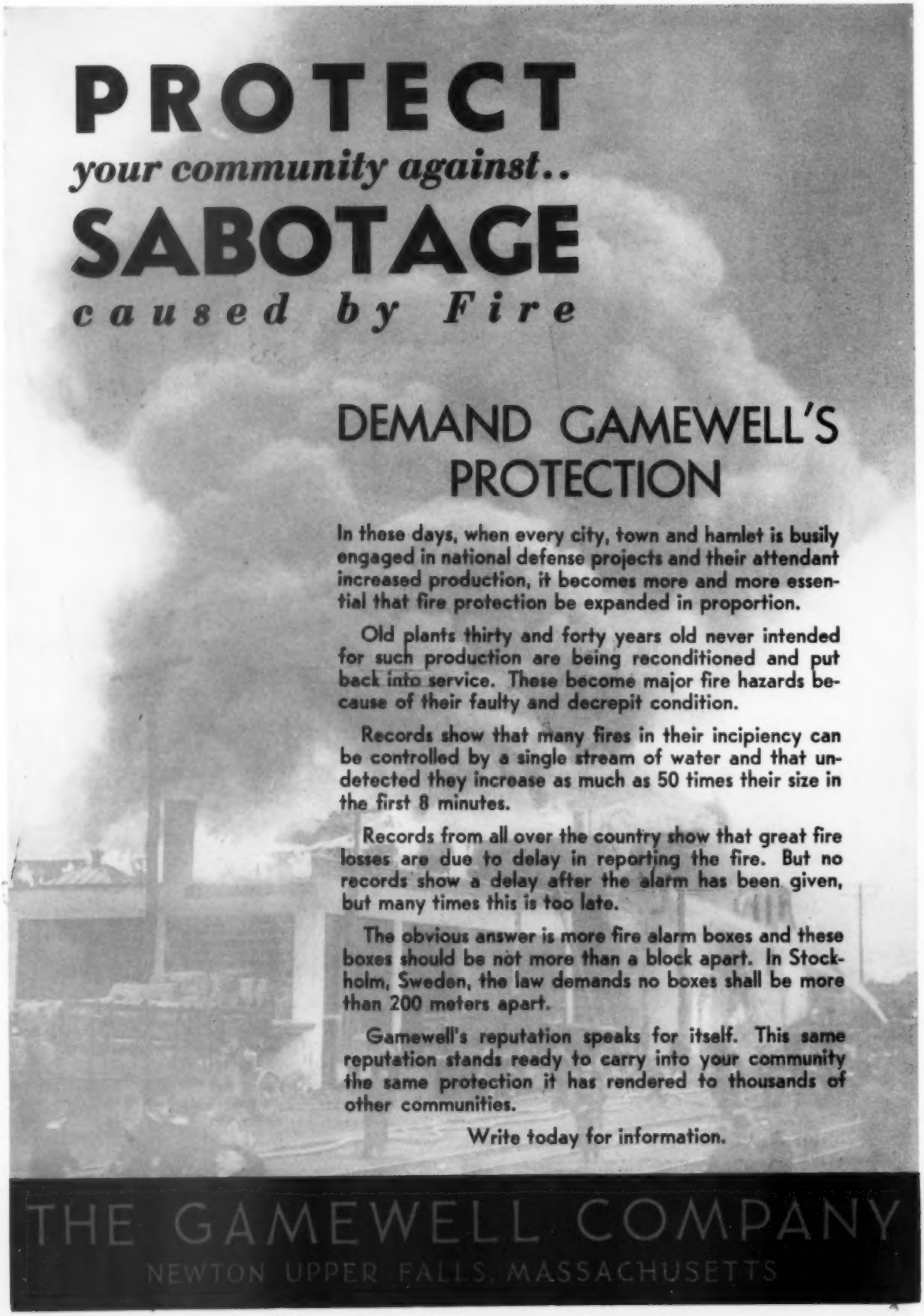

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In these days, when every city, town and hamlet is busily engaged in national defense projects and their attendant increased production, it becomes more and more essential that fire protection be expanded in proportion.

Old plants thirty and forty years old never intended for such production are being reconditioned and put back into service. These become major fire hazards because of their faulty and decrepit condition.

Records show that many fires in their incipiency can be controlled by a single stream of water and that undetected they increase as much as 50 times their size in the first 8 minutes.

Records from all over the country show that great fire losses are due to delay in reporting the fire. But no records show a delay after the alarm has been given, but many times this is too late.

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FIRE
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JULY, 1941 VOL. 94. NO. 7

With the Editor

Complete This Task First! Many Fire Departments are today being urged to buy auxiliary fire-fighting apparatus as a necessary move in strengthening the department to meet wartime needs. Such a move is commendable.

But aren't we ahead of ourselves? Isn't the first logical step the bringing of the present department up to date!

There isn't a large department that can boast of no old apparatus in service. For the country as a whole, approximately half of the apparatus now doing duty is obsolete, and should be replaced.

If ever American cities are subjected to intensified air attack, and this old apparatus is called upon to travel to fire after fire over debris obstructed streets, its life will be terminated very quickly.

It's time enough to think about auxiliary apparatus when present fire companies have had their apparatus and personnel brought up to full strength.

What Type Auxiliary? Two schools of thought have developed on the form the auxiliary fire engine should take. One group, apparently unfamiliar with British experiences with various types of pumpers, favors the conventional type of self-propelled engine, but built around low-priced commercial car chassis. The other group, benefitting by close contact with those who have studied the matter right on the fire grounds in blitzed Britain, is convinced that the trailer pump alone fills the bill.

They point out, and effectively so, that the trailer unit, because of its small size, can be stored alongside of driveways, just inside department stores, hotels, or other buildings located in the area to be protected; they can be stored under stairways in fire stations or at other points therein too small to accommodate self-propelled units. Trailers have been moved through debris-filled streets which motor propelled units have been unable to negotiate. And, finally, the low cost of the unit enables a department to secure better coverage of a city for a given sum of money.

It is our opinion that British cities would not have purchased over 35,000 trailer units if they were not the answer to the problem.

Fred Shepperd

Rural Fire Departments Prove Successful

By A. H. GENT*

RURAL fire protection, the most recent field entered by firemen in their never ending endeavor to reduce the annual loss of life and property by fire, is destined to become a major part of the nation's fire defense.

Fire-protection-minded individuals and organizations realized that improved roads and modern motorized fire apparatus made rural fire protection possible. It soon became apparent that fire apparatus which had formerly been designed for use in urban areas only could be developed to better fit the needs of rural areas. Accordingly, fire department officials, government officials, insurance interests, fire apparatus manuacturers and the National Fire Protection Association formulated standards which were subsequently coordinated and published.

Farm fire fighting may include grain field fires as shown here.

Specific Assignment

Rural fire department service is fire protection furnished property located outside the corporate limits of a municipality *by specific assignment,* using apparatus designated for such purpose. This includes farm property, scattered suburban dwelling or mercantile property, isolated manufacturing property, or even small unincorporated communities. Assignment must be specific so that every property owner within a given district will know definitely the procedure to follow in turning in an alarm and prearranged fire department service will be immediately available.

Methods of Providing Protection

The following methods are most widely used to provide rural fire protection:

1. Apparatus and equipment is provided by means of subscriptions solicited throughout the district served and arrangements are made with a municipal or town Fire Department in the vicinity for housing, manning and maintenance. Subscribers are furnished protection for the life of the truck, or, in some cases, a small additional fee is charged annually. Fires in property of non-subscribers are generally responded to but a bill is submitted, which, if not paid many times leads to discontinuance of service.

2. Apparatus and Equipment are provided by a municipal or town fire department, apparatus being housed, manned, and maintained by such department. Fire department service is then sold on an annual fee basis, at so much per property, depending upon the type, size and character thereof. Non-subscribers receive service only when the payment of a comparatively large sum is guaranteed, or when the fire endangers the property of a subscriber. Also, fire protection associations formed by groups of suburban property owners, or the residents of a small unincorporated community, have been known to contract for a nearby municipal or town fire department to furnish protection within the entire district for an annual fee when they have not been able to provide facilities of their own. Entire townships or other legal divisions of territory may also make arrangements to obtain outside fire protection in the manner described.

3. Protection is provided through the formation of a rural fire protection district. By an act of the State Legislature one or more townships, or a part of a township, or parts of several townships may form a fire protection district within which a tax may be levied for the provision of fire protection. Management of the district's affairs is the duty of a duly elected or appointed board of trustees. Fire protection for all property within the limits of such a specifically defined district is generally provided by the following methods:

a. Contract between an established fire department and the fire protection district whereby the district is given protection for an annual fee. Municipal or town fire department provides apparatus, equipment, man power, maintenance and housing facilities.

b. Provision and maintenance of apparatus and equipment by the fire protection district with manning and housing facilities provided by the municipal or town fire department. The service rendered is then paid for on the basis of a set fee per run, per

*Engineer, Illinois Inspection Bureau. Excerpts of a paper delivered before the annual meeting of the Agricultural Committee of the National Fire Waste Council, Chamber of Commerce of the United States.

hour, or per year.

c. Provision of full fire department facilities by the fire protection district, including apparatus, equipment housing and personnel. Fire department is then located in the community or municipality included within the boundaries of the fire protection district.

It is generally found that arrangements for fire protection made through a rural fire protection district, township or other legally authorized body is the most satisfactory method for both fire department and property owner and leads to fewer controversies over payment of fees, assignment of response, maintenance of equipment and general management.

Rural fire fighting includes grass and brush fires. Many a farm building in the path of a grass or brush fire has fallen prey to the flames.

Requirement for Protection

Rural fire department service to render satisfactory protection must consist of the same fundamental facilities that go into the make-up of city fire department service, namely: 1. Adequate, well trained, properly organized personnel, with good leadership and proper personal equipment. 2. Ample records of operations, facilities available, district and property covered, including a proper inspection program in connection with the compilation of such records. 3. Proper housing facilities. 4. Good alarm arrangement. 5. Apparatus designed for the service, carrying necessary specifically adapted equipment for all maneuvers necessary to control and properly overhaul a fire. 6. Proper maintenance of apparatus and equipment.

Personnel—Volunteer or Call

In practically every case, apparatus for rural protection is manned by the fire department located in the municipality or community in which the apparatus is housed. The minimum trained fire department personnel responding should not be less than five men so as to assure a fairly well manned company. Where departments are largely or wholly call or volunteer, the total number of men designated for this service should be such as to provide a good factor of safety. In other words with five men as a minimum responding, the total call or volunteer personnel from which this minimum manning is obtained should be at least 10 or preferably larger. Needless to say, where rural service is assumed by a municipal volunteer or call fire department, assignment of men should be specifically arranged so that man power available for city protection will not be entirely depleted while rural alarms are being responded to. This may best be done by dividing the department into several companies, assigning one company to rural work and both to service in the city. Companies should, of course, be changed from time to time to allow all firemen to participate in the rural service.

Personnel—Full Paid

Where departments are on a full paid basis, and rural service is assumed, it is usually more difficult to obtain the minimum man power, as stated. This especially applies to the smaller full paid fire departments. In most cases, so that company strength will not be depleted, the usual man power responding is not greater than two men, the off-shift filling in at quarters. Untrained farmers are then depended upon for assistance.

Farm Fire Department

To offset this, the organization of a farm fire department to supplement full paid personnel is desirable. One plan which has proved successful is as follows: The rural district is divided into four sections and five farm firemen have been appointed in each. All firemen have phones and phone numbers are posted at the telephone exchange. This farm fire department meets monthly with the city firemen and special drills are held for them. Apparatus is housed in the city and upon receipt of a rural alarm at headquarters, two men, namely a driver and an officer, respond with the rural truck. The telephone company cooperates and calls the rural firemen by telephone, response being direct to the fire. Then, when the apparatus arrives, a satisfactory number of trained men are available for fire fighting. A standing order is that if at all possible response of farm firemen be made with a truck, and that extra milk cans filled with water be carried for replenishment of the booster tank and other water supply facilities.

Records

The problem of locating the rural fire from the information transmitted to the fire department at time of fire is similar to that encountered in a good size municipality due to the large area usually covered. For this reason, records for rural fire department work, in addition to the usual fire loss, operation, personnel and equipment records, should consist of a map of the territory covered, including road information and the location of all property served, cross-referenced with another file, either of the card type or other readily accessible form, giving further details of the property, such as the name of the owner and the tenant, water supplies, building

location, construction, etc. Periodic check-up of records is, of course, vital, and fire prevention work may be accomplished in conjunction with such regular inspections.

Housing Facilities

Satisfactory housing facilities are usually provided, although in smaller towns apparatus sometimes is housed without special accommodations in a public garage, which is very poor practice. If it is necessary to use a public garage until proper station facilities are provided, space for apparatus should be properly partitioned off from the rest of the garage so that no interference to response will occur, or there will be no danger of by-standers *borrowing* equipment.

Fire fighting is a difficult task if modern apparatus is not available

Alarms

Alarm facilities and arrangements are varied, but in all cases should be such that there will be no interference to the rapid receipt of alarms. Audible general alarm facilities are usually a necessity where departments are largely or wholly volunteer or call.

Apparatus

There are many different types of fire apparatus used for rural service, but in general the triple combination pumping type is the most widely used and is no doubt most adaptable for the principal fire fighting unit. Pump should be of at least 300 gallons per minute capacity so that 2½-inch hose lines may be utilized if water supplies permit. Automotive engines available and generally used in fire apparatus are capable of driving a pump of this capacity and most of them are capable of driving larger units. Where power is available for a larger pump it should be used, as such additional pumping capacity may at some time be most valuable. Apparatus should be of a type which has passed the 12-hour duration test of the National Board of Fire Underwriters and should pass a 3-hour acceptance test upon delivery. Sufficient power should be available and chassis design such that men and necessary equipment may be carried, even under adverse conditions, without overloading. In all cases, apparatus for rural protection should be in addition to, or supplemented by, suitable apparatus for protection of the city, while outside alarms are being responded to. Booster tanks should be of at least 200 gallons, and hose body of at least 1000 ft. capacity.

Due to the water supply problem in rural areas, the present trend is to provide booster tanks capacity in excess of the minimum specified. However, it should be borne in mind that water weighs approximately 8⅓ lbs. per gallon, and harmful overloading of apparatus may result when abnormal quantities of water are carried, in addition to men, hose and necessary appliances. Therefore, it is suggested that if it is desired to carry large quantities of water on mobile apparatus, consideration be given the provision of water carriers auxiliary to the principal fire fighting unit. Many of these are in successful use at present and enable the fire department to have on hand a good quantity of water from small streams without overloading the primary apparatus.

Accessory Equipment

In considering accessory equipment, we may well repeat the statement made in describing requirements for fundamental facilities for fire departments, namely, "apparatus designed for the service, carrying necessary specifically adapted equipment for all maneuvers necessary to control and properly overhaul a fire." In selling fire apparatus, manufacturers usually agree to furnish the apparatus equipped with what is known as "basic equipment" for a certain sum, any other equipment added being known as "extras." Many times a fire department will get a new truck provided with basic equipment only, and is expected to use it as an efficient piece of fire apparatus. If the department is progressive, however, the truck does not remain that way very long. Immediately it is seen that to meet the fundamental need numerous other accessories have to be added. In fact in many cases appliances are found on fire trucks which have been developed for one specific type of work by the fire department. However, in every case, it should be the ultimate aim to carry every appliance necessary to do any specific type of work which might be encountered, with the thought in mind that a tool specifically designed for the job is better than something that is pressed into service in an emergency.

Knapsack type hand pumps have proven themselves at rural fires. Here one is being filled by a farm pump.

Based on this thought, the various agencies mentioned above have set forth suggested accessories to be carried on rural fire apparatus, and it is recommended that these be followed. The thought to be borne in mind, of course, in using such specifications is that the requirement is for the ul-

timate job to be done by such accessory and not the specific type of accessory recommended. In other words, if something is developed by the department to do the specific job for which the recommended accessory is meant, and if it will do it just as well, so much the better.

Other Facilities Which May Be Used

Following such specific thought many other facilities may be brought to mind which can be used to advantage. Such things as auxiliary portable pumping units, auxiliary water carriers, flood lighting equipment, first aid squads with rescue equipment, and a good number of other auxiliaries to the principal fire fighting unit may give needed supplementary service.

There are also other problems of rural protection, such as the development of rural water supplies, maximum distances advisable for response, arrangement for maintaining roads in condition, rural telephone service, etc., which are of great importance and should not be overlooked when organizing for the protection of your community.

Bridgeport Builds Bomb Taxi

The Bridgeport, Conn., Police Department has constructed a unique "bomb taxi" consisting of a large tank of ¾-inch boiler iron mounted on a sheet iron platform. The tank and platform are mounted on a heavy two-wheeled chassis with heavy duty springs acting as cushions. No bolts were used in the construction of the tank. One-inch cable is wound around the tank and welded every few inches. A heavy iron mesh net covers the tank to prevent particles from flying out of the tank when the bomb explodes.

When a bomb or suspicious package is discovered, the bomb taxi is towed to the spot. The bomb is placed in the tank which is parked in the center of the street. If the bomb does not explode, the taxi is then hauled to an open lot where trained technicians use a half-stick of dynamite to destroy the package.

Convicted of Fire Violations

David H. Levine, President of the New Haven Quilt and Pad Company abandoned his appeal to the Common Pleas Court at New Haven, Conn., on May 5, from a conviction of violating the municipal building code in connection with reconstruction operations at his factory following a fire on February 5 in which ten employes were killed.

Levine, charged with 95 counts of violating the code, was convicted on 24 of them April 24 and fined a total of $750 which he paid. City Court Judge Joseph Weiner imposed $100 fines on two of the counts and $25 fines on each of the twenty-two others.

THOMAS F. MAGNER.

STUDIES SHOW 900 MEN VICTIMS OF BURNS IN HOMES

Metropolitan Life Insurance Company Figures Show Many Die as Result of Smoking While in Bed

BURNS, which rank second as a cause of fatal accidents in the home among adults, quite naturally are thought of as a hazard to which more particularly women are exposed. In fact, annually almost twice as many women as men die as a result of burns received in home accidents. Nevertheless, the mortality from burns sustained in the home is far from negligible among men.

Actually, in the United States, about 900 deaths, on an average, are thus caused each year among males fifteen years old and over, according to an estimate based on the best information available. And this estimate is exclusive of those deaths that occur in connection with the burning of a building.

Care Is Necessary

The exercise of extreme care to avoid burns in the presence of an obvious fire hazard would seem to be almost instinctive. Yet gross carelessness in just such situations accounts for a heavy toll of male lives. This fact is brought out strikingly in the accompanying table, which shows the principal agencies involved and the circumstances surrounding accidents among the 300 male Industrial policyholders of the Metropolitan Life Insurance Company, ages fifteen years and over, who were fatally burned in the years 1935 to 1939.

Careless smoking was the chief cause, accounting for eighty, or 26.7 percent, of the 300 deaths. In a previous study of burns among female policyholders, it was determined that smoking was responsible for only about five per cent of their deaths. Smoking in bed is little short of criminal, since it menaces not only the life of the smoker, but the lives of his family and his neighbors. In many fatal cases resulting from this practice, the accident was caused by the man falling asleep with a lighted cigarette in his mouth. Out of the total of 300 of these insured men, fifty-eight somehow set their night clothes or bed covers on fire while smoking in bed, and received burns that ultimately proved fatal.

Even dozing off while sitting in a chair and smoking, is fraught with danger. Eleven of the 300 fatal burns were thus incurred by the victim falling asleep in his chair, dropping his cigarette, and setting fire to either his clothes or his chair. In other instances he set his bathrobe or other clothing on fire while lighting a cigarette or pipe. Burning tobacco falling from a lighted pipe onto the smoker also caused several cases of fatal burns.

Stoves, furnaces, or grates were involved in about one quarter of the fatal accidents among men. Among women, whose dresses catch fire much more easily than men's clothes, these agencies were found to be involved in almost half the fatal burns.

Flammable liquids play a relatively

Article is reprinted from Statistical Bulletin of the Metropolitan Life Insurance Company.

Deaths from Burns (Excluding Conflagrations) Among Males, Ages Fifteen and Over, In and About the Home. Metropolitan Life Insurance Company, Industrial Department Weekly Premium-Paying Business. 1935 to 1939

Agency and Circumstances	Number of Deaths	Percent of Total
Total	300	100.0
Cigars, cigarettes, pipes, and matches	91	30.3
Smoking	80	26.7
Lying in bed	58	19.3
Falling asleep on chair	11	3.7
Lighting cigarette, pipe, etc.	4	1.3
Falling embers from pipes	3	1.0
Other circumstances	4	1.3
Other uses of matches	11	3.7
Stoves, furnaces, grates, etc.†	76	25.3
Standing or sitting close to open fires	30	10.0
Upsetting, careless filling, etc., of oil stoves	11	3.7
Other circumstances	35	11.7
Flammable liquids	49	16.3
Kindling fire	18	6.0
Working near gasoline in garage	9	3.0
Cleaning	7	2.3
Using gasoline blow torch	5	1.7
Other circumstances	10	3.3
Oil lamps	28	9.3
Upsetting lamp on table, window sill, etc.	13	4.3
Falling while carrying lamp	5	1.7
Careless holding of lamp	4	1.3
Other circumstances	6	2.0
Hot liquids	21	7.0
Upsetting vessel on stove or table	7	2.3
Upsetting vessel—no other information	5	1.7
Taking shower or bath	4	1.3
Soaking feet in hot water	3	1.0
Other circumstances	2	.7
Bonfires in yard	11	3.7
Other stated circumstances	15	5.0
Resting feet on hot radiators	4	1.3
Using hot-water bottles	3	1.0
All others	8	2.7
No information given	9	3.0

†Does not include burns from kindling fires with flammable liquids.

less important part in the mortality from burns among men than among women. Certain special risks in their use, however, figure prominently in the record for men. Flammable liquids claimed forty-nine, or one-sixth of the lives; in eighteen of these cases, the victim was throwing kerosene or gasoline on a fire to light or hurry it along. Nine men were burned by gasoline explosions while working on or near their automobiles in the family garage. In most of these cases a container of gasoline or gasoline-soaked clothes were ignited. Lighted cigarettes, lanterns, and short circuits were mentioned as the cause of these explosions in a few instances that were reported.

The handyman at home often tries his hand at a blow torch. Five men were killed either because they did not know how to use, or were careless in their employment of, gasoline blow torches.

The practical joker contributes his unenviable share to fatal burns. A middle-aged man picked up a jar thinking it contained water, and poured the contents over the head of a friend, who was holding a lighted cigarette in his hand. The jar, however, was filled with gasoline, which ignited when it came in contact with the cigarette, causing the smoker's clothes to take fire.

Upsetting oil lamps, upsetting vessels containing hot liquids, and tending bonfires in the yard, were among the other important causes of fatal burns among men.

NEED FOR SIGNALING METHODS UNDER EMERGENCY CONDITIONS

Conditions in War Areas Show Value of Proper and Adequate Fire Alarm Signaling Systems

By Vincent C. Stanley*

THE whole fire-fighting facilities of the country are built up and organized to respond in all emergencies through various established channels of one form or another or communication, all of which to put the fire-fighting forces in motion, revolve around a municipally-owned and operated signaling system.

Dependability of the signaling means should be more generally recognized as the one indispensable characteristic of any emergency signaling system upon which the security of life and property depends. Fire alarm, the most vitally important of the signaling services, is always accomplished under emergency conditions—sabotage and war merely intensify these conditions, but the threat of war, by impelling a consideration of the adequacy of the signaling systems as an element of the national defense of necessity, brings to light the weaknesses existing in such systems and cause their deficiencies, even for peacetime service, to stand out in sharp relief.

Municipalities are merely political subdivisions of the nation. But in municipalities are concentrated a great mass of the people and the factories with their industrial processes that are essential not only to the national defense in time of war, but to the national welfare at all times.

The local fire and police departments entrusted with the responsibility for the public safety within the corporate limits must necessarily depend upon the signaling system if they are to successfully combat fire and crime, and without adequate and dependable signaling systems their organizations and equipment are helpless and will fail to achieve their intended purpose in exactly the same degree that the signaling systems are inadequate and independable.

In this connection, a striking example of dependability appears in an article recently published in the magazine "Fire", the official journal of the British Fire Service. This article states:

"The London County Council has cause to congratulate itself on its wisdom in replacing, as far as possible, the old open circuit, non-code, fire alarm system by the closed-circuit system, which is demonstrating its superiority as a means of communication even during air raids.

Closed Circuit Proves Effective

"In one London thoroughfare, when a large calibre high explosive bomb caused considerable destruction, a closed-circuit fire alarm box, close to the crater, was brought to the ground, with its pillar completely severed in the middle, as though it had been cut by the oxy-acetylene process.

"Despite all this, the mechanism in the head and the cable were uninjured, and code and telephone calls were accurately and speedily transmitted from the box. Of course, all who knew anything of the system expected this, but the general public did not.

"Probably the time will come when police authorities will follow the example of Southend and Portsmouth in installing closed-circuit police alarm boxes. These are eminently superior to the extremelv costly police "telephone boxes in the London area which can be disabled by the malicious without the man at the switchboard being any the wiser."

The London County Council certainly made no mistake when it caused to be installed during a time when the British nation was at peace, fire alarm boxes embracing the Gamewell factors of safety and of such inherent excellence of materials and workmanship as to withstand the effects of aerial bombardment and still remain in condition to dependably transmit signals.

Fire out of control in itself constitutes the most serious emergency that can happen in a congested business or residential area. The citizen who pulls the fire alarm box is naturally excited and the operating mechanism of the box must be so designed that he cannot mistake its purpose, its method of intended use, or fail to operate it correctly. Signaling systems are constantly exposed to the elements, to storms, earthquakes, crashing of automobiles into poles and pedestals, and to accidental contacts with high tension electric power circuits. Yet, under all of these conditions the systems must have sufficient dependability to correctly serve their purpose.

Dependability Demonstrated

The example of the dependability of modern fire alarm systems which occurred in London, while receiving greater publicity owing to the wartime conditions under which it happened, is by no means exceptional. Here is our own country following the earthquake of 1933 in Southern California which disrupted for days all other forms of communication, the dependability of the signaling systems was strikingly demonstrated. Following the worst flood in the history of Pittsburgh in May 1936, the Chief made the following statement:

"The fire alarm system, exclusive of the boxes under water, functioned one hundred per cent. Not an alarm of fire was lost during a period of five days while light, power and transportation were suspended. During this period our office transmitted 189 alarms for fire."

A newspaper article published after the hurricane which swept New England in September 1938 stated that in Boston, fire alarm boxes kept ringing in as frenzied citizens rang for help as hundreds of electric light and power wires fell before the crumpling of entire lines of trees, and that the Boston fire department responded to more than 350 alarms during the storm.

Early Weaknesses

These few instances have been cited to prove the high degree of dependability that is built into modern fire alarm telegraph equipment. But there are factors of independability existing in the signaling systems and methods employed in most of the smaller communities and many large communities as well. In practically all of the older signaling systems throughout the country the ability of the boxes to send their signals over broken or otherwise disordered circuits is absent. When a circuit is broken all of the boxes on that circuit are out of service; when a cable containing the wires for a number of circuits is broken a great number of boxes are incapacitated and a large municipal area is destitute of fire alarm protection; if the cable also contains the alarm circuits over which alarms are sent from the central alarm station to the fire stations, the fire-fighting forces are left without any means of receiving alarms, except possibly by telephone in the event that the telephone wires are in different cables and which may have escaped disruption.

Reserve power and reserve equipment are items of vital importance in main-

*President and General Manager, The Gamewell Company, Newton Upper Falls, Mass. From address before the Massachusetts Farm Bureau Federation, Worcester, Mass.

taining the dependability of signaling systems under emergency conditions. Storage batteries of adequate capacity have long been recognized as the standard means of supplying electrical current for the operation of these systems but there must also be provided dependable means for charging the batteries. It is generally supposed that the public service supply of electric power is now so continuous and free from interruption that it is entirely dependable, but this is true under ordinary conditions only. The many experiences during the floods, storms and earthquakes of recent years have shown that the public utility power supply has been frequently interrupted for periods sufficiently long to incapacitate the signaling systems dependent thereon and to conclusively indicate that every municipal signaling system should have a standby independent power supply source such as may be provided by a gasoline engine-driven generator of sufficient capacity to supply battery charging current and temporary lighting for the central alarm station.

In the communities dependent upon volunteer firemen, and with a public alarm system for calling the firemen, the necessity for a reserve power supply extends to the public alarm means in addition to the provision of adequate battery charging facilities. When fires occur, such communities are entirely dependent upon the public alarm for mobilizing their fire-fighting forces, and instances of electric power cessation caused by storms, high wind, and sleet are not infrequent. The sleet storm in 1935 that crippled seventy-five per cent of the Georgia power lines, the hurricane of 1938 which left scores of New England communities in darkness for days, the sleet storm of March 1940 which, within its path in Connecticut and adjoining states inflicted even more damage than the hurricane, and the hurricane of August 11, 1940, which swept through the Southeastern Coastal States, are only a few recent outstanding occasions when many communities were deprived of electric power for publicly announcing alarms of fire to their volunteer fire departments.

Alarm Equipment Must Be Self-Contained

The characteristics of any means for publicly announcing alarms of fire, if dependable service is to be expected, must necessarily include in addition to sufficient sound penetration and coding ability, adequate reserve power capacity to tide over periods of electric power interruption in fact, the ideal public alarm under emergency conditions is one that is entirely independent of any remote source of power supply.

Reserve supplies of equipment, parts and materials likely to be damaged or destroyed by accident or sabotage are essential to maintain the continuity of protection afforded by the signaling systems. The determination of the quantities to be held in reserve for emergencies can only be arrived at by a careful study of the conditions existing in each community but it is obvious that boxes, recording instruments, batteries, rectifiers, vital parts that can be destroyed or removed, quantities of wire, and cables of the kinds and capacities used in each system, should be included in the list.

Unless the signaling system provides adequate signaling facilities at all points within the city limits it is not sufficient. Irrespective of how dependable each element of the system performs its functions, the system will fail to achieve its intended purpose. Strange as it may appear in this era of efficiency, and although many cities are well equipped, the statement may be made that American municipalities, on an average, are at least seventy-five per cent deficient in their provision for emergency signaling.

The Chamber of Commerce of the United States recently pointed out that practically no city in the country has enough fire alarm boxes and this statement is fully substantiated by the detailed engineering reports of the National Board of Fire Underwriters compiled during the periodic inspections of municipal fire defenses made by this organization. A fire loss in physical values alone during the twenty-one years, 1919-1939, of eight and one-half billions of dollars, the destruction of intangible but nevertheless real values amounting to twice that figure, the loss of some 200,000 human lives with injuries sustained by several additional hundreds of thousands of people, is the peace-time record of American cities.

Modern military preparedness is entirely dependent upon industrial efficiency and the continuity of the processes of production. Any serious impairment thereof would be a national calamity. Prior to actual involvement in war, fire and sabotage by fire probably present the greatest menace to industry. Authorities are generally agreed that an intensification of the usual methods of protection, which include fire and police supervision, fire and police signaling systems for ensuring adequate supervision and for the swift dissemination of intelligence in emergencies, and fire fighting equipment, will provide the most effective remedy. The success of any plan adopted will necessarily be determined by the adequacy of the signaling systems and the associated means of communication.

The generally accepted yardstick for measuring the peace-time adequacy of the signaling and supervisory systems is contained in the regulations of the National Board of Fire Underwriters as recommended by the National Fire Protection Association for the installation, maintenance, and use of Municipal Signaling Systems. These regulations are employed by the Underwriters for grading municipalities for insurance rate-making purposes.

With respect to the essential characteristics of public alarm equipment, the fact should not be overlooked that although war has not yet reached our shores, our Federal authorities indicate that it is by no means a remote possibility. In such case, our larger cities may also have to contemplate reversion to the public alarm, not only for fire signals, but for air raid alarms, and for the swift dissemination by sound of information and instructions should other means of communication be disrupted.

While it is to be hoped that our country will be spared the horrors of war, the recent fate of many countries that were unprepared should be sufficient warning even to a country several thousands of miles removed from the existing centers of conflict. And the emergency of war should not be necessary to inspire the municipalities of America to correct a deficiency which is responsible, year after year, for the waste of property valued at a billion dollars or more, and the sacrifice of thousands of human lives.

Defense Councils Formed

Twenty-five state legislatures have now made provision for state defense councils or similar bodies. Twenty-three of these councils were established by legislatures which have adjourned. Similar laws are pending in state bodies still in session.

New Pumper for Colorado Springs

The 750-gallon American LaFrance pumper recently put into service in the Colorado Springs Fire Department. Around the pumper are members of the department dressed for the Rodeo to be held August 14 to 17. With them is Miss Lucky Knowles, 1941 Girl of the West and Queen of the Rodeo.

EASTERN FIRE CHIEFS HOLD SUCCESSFUL 3-DAY CONVENTION

Approximately 200 Registered at the Fourteenth Annual Meeting Held at Lancaster, Pa.

THE Eastern Association of Fire Chiefs held its Fourteenth Annual Convention at Lancaster, Pa., on June 12, 13 and 14, and the attendance, program and exhibits were up to the usual high standard.

The convention was opened by Assistant Chief Frank Deen, who introduced Chief Harry E. Miller of the Lancaster Fire Department. Chief Miller, in turn, presented the President, Deputy Chief John J. T. Waldron, of New York.

Mayor Dale E. Carey of Lancaster delivered the address of welcome to which there was response by Chief Waldron.

In making his report, the Secretary, Chief Charles E. Clark, called attention to the good financial condition of the Association and to the gradually increasing roll of members. He also expressed the hope that he would be able to withdraw from the Secretaryship next year.

Former Chief Richard L. Smith of Pittsburgh, Treasurer of the Association, presented his report which corroborated the figures given by Chief Clark.

Following the opening ceremonies a representative of the local power company showed several motion picture films on fighting fires in electrical equipment. He also gave details of the fire protection at the large power house located at Safe Harbor near Lancaster.

The afternoon session of the opening day was devoted to an inspection trip of Safe Harbor Dam and Power House. After the inspection, the delegates were treated to an old fashioned Pennsylvania Dutch barn dinner.

The second day opened with a very effective address by Roi B. Woolley, former President of the Fire Chiefs Emergency Plan of Westchester County, New York.

Mr. Woolley described in detail the make-up of the Westchester County Plan and its methods of operation. He urged that politics be eliminated from defense organizations if effective work is to be performed.

H. W. Prentis, Jr., President of the Armstrong Cork Company of Lancaster, Pa., discussed the present trend of the national government in a paper labelled "The Foundation of Freedom."

The third paper on the Friday morning session was by Herbert A. Friede, Superintendent of Fire Alarm Bureau, Washington, D. C. Mr. Friede, who is a member of the Advisory Committee on Fire Defense at Washington reviewed steps taken by the Committee and other government organizations in formulating plans for civil defense. He urged all fire chiefs to make surveys of their apparatus needs and to go on record as requesting such apparatus. He expressed a belief that there is a possibility of government appropriation for the purchase of fire appartaus needed for defense aaginst possible air attack.

In the absence of Dr. Fred W. Hosler, Superintendent, Public Service Institute, of Pennsylvania, Arthur Espey, Chief Instructor of Firemen of the State of Pennsylvania, read Mr. Hosler's paper on "Planning a State-Wide Fire Service Training Program."

The final paper of the session was by Joseph P. Hackett, Superintendent of Repairs, Fire Department, Newark, N. J. Mr. Hackett described the care of apparatus and equipment, and gave some very useful suggestions to this end.

The delegates had a very interesting inspection trip on Friday afternoon when they visited the Armstrong Cork Plant and the home of James Buchanan, Fifteenth President of the United States.

In the evening there was a banquet and show in the headquarters hotel for the delegates.

The final session held on Saturday morning, included routine business and an address by Chief Edward H. Warr, of the Salvage Corps, Baltimore Md. Chief Warr not only spoke on salvage work, but also gave demonstrations with pictures of salvage operations.

Manufacturers exhibiting at the convention were as follows: Atlas Fire Equipment Company; D. B. Smith & Company; Mine Safety Appliances Company; Federal Electric Company, Inc.; Safety First Supply Company (representative of E & J Manufacturing Company); American District Telegraph Company; Akron Brass Manufacturing Company; Mack Manufacturing Company; Ansul Chemical Company; Buffalo Fire Appliance Corporation; Kerotest Manufacturing Company; FIRE ENGINEERING, and the Pennsylvania Firemen's Training School.

Asst. Chief Frank Deen Poses with Synthetic Amish at Lancaster
Left to right—R. L. Smith, Ex-Chief, Pittsburgh, Pa., and Treasurer of the Eastern Association; Herbert A. Friede, Supt. of Fire Alarm Telegraph, Washington, D. C.; Frank Deen, Asst. Chief, Lancaster, Pa.; S. A. Fink, Pittsburgh, Pa.; and Eddie Penkethman, The Gamewell Company.

Plant Inspection to be by Civil Service Appointees

The War Department has recently set up a plant protection inspection service which is to be staffed by civil service appointees. An examination to test persons for these inspector positions has just been announced by the United States Civil Service Commission.

Inspectors will perform a variety of duties and maintain important contacts. They will inspect facilities in military and industrial plants, arsenals, and depots and the utilities serving such establishments, to determine the efficacy of all phases of their protection. In cooperation with Federal, State and local law-enforcement agencies, as well as military authorities, they will participate in consultations on matters of fire protection and control and the protection of life and property against industrial hazards and wilfull destruction.

Persons may be eligible to apply who have had full-time responsible experience as fire marshal or inspector of a large city fire department, investigator of large industrial installations for a fire or indemnity insurance company, safety director in a large commercial establishment, technical safety engineer or consultant, or as plant engineer with responsibility for plant-wide safety programs. Only persons who can meet high professional and personal standards will be considered for these positions which pay from $2,900 to $4,600 a year.

Application forms and information may be obtained from any first or second class post office or from the Civil Service Commission.

May Fire Losses

May fire losses in the United States were $25,637,000, according to an estimate made by the National Board of Fire Underwriters. These estimated losses, under fire insurance policies, are on an incurred basis including an allowance for unreported and uninsured losses.

This total is an increase of nine per cent over the losses in May last year, while it shows a decline of thirteen per cent from the total for April of this year.

The aggregate for the first five months of this year, however, in comparison with the same period last year, shows a decline of nearly eight per cent.

G. W. Booth Honored

George W. Booth, Chief Engineer of the National Board of Fire Underwriters, received an honorary degree of Doctor of Engineering from the Worcester Polytechnic Institute, Worcester, Massachusetts on Friday, June 13. The conferment came as the class of 1891 of which Mr. Booth was a member, was holding its 50th anniversary reunion.

After receiving his Bachelor of Science Degree in civil engineering from Worcester Polytechnic Institute in 1891, Mr. Booth served for two years as an instructor of civil engineering at the Institute. During the following two years he worked for the Massachusetts State Board of Health at Boston on investigations for a metropolitan water supply. He also spent several years with the Metropolitan Water Board of Massachusetts before he was appointed to the staff of the National Board of Fire Underwriters as a hydraulic engineer in 1904. Except for the period from May, 1908, to May 1909, when he was with the New York City Department of Water Supply, Gas & Electricity, he has served continuously with the National Board since that time. He has been its Chief Engineer since 1910.

Mr. Booth is generally recognized as probably the foremost authority in the country on water supply as it relates to fire fighting. He is a member of the American WaterWorks Association, the New England Water Works Association and the American Society of Civil Engineers.

Lynn Firemen Lose Fight for 72-hour Week

The Supreme Court recently upheld a decree of the Superior Court which enjoined Lynn, Mass., firemen from working a 72-hour week instead of an 84-hour week.

The decision was made more than a year ago and was taken to the Supreme Court on appeal. Ten taxable inhabitants had protested an order passed by the Lynn City Council on Feb. 27, 1940, which installed the shorter work week.

Blackout Lighting Demonstrated

Blackout lighting, which facilitates the flow of auto and pedestrian traffic without being visible from the air, was demonstrated in this country for the first time at Lynn, Mass., the night of May 14 before a crowd of 7000, including prominent officials from 50 electric utility companies, the army, and numerous city governments.

Arranged by General Electric engineers, the demonstration consisted of the lighting of twelve specially designed blackout luminaires spaced 100 feet apart along Parkland avenue. As the regular lights were turned off, airplanes droned overhead, adding a realistic note. With the blackout lights of about one candlepower each replacing the 4000-candlepower street lights, it was possible to see persons or objects at a distance of about 25 feet. The crowd had been cautioned not to light matches or smoke cigarettes during the demonstration inasmuch as it takes about 15 to 20 minutes for the eyes to become adjusted to the low level of illumination.

The blackout luminaires are shaped like an admiral's hat and use a 2½-watt Argon (gaseous) lamp. The light they give off cannot be seen at more than a few hundred feet above the ground. Thus a whole city lighted with it would be invisible to bombers or observation planes which usually operate at about 20,000 feet to be outside the range of anti-aircraft fire.

The Argon lamp also gives off invisible light in the form of ultra-violet rays. It was demonstrated that fence posts covered with fluorescent paints glowed when activated by the rays. Sign posts, curbs, and perhaps even vehicles could be painted in the same way to increase ground visibility with the blackout lighting, it was explained.

New Mexico Firemen Elect Officers

At the recent meeting of the New Mexico State Firemen's Association held on May 26 to 28, at Hot Springs, N. M., the following officers were elected: President, Chief F. W. Wynn, Hobbs; Vice-President, Chief W. A. Westerfeld, Albuquerque; Vice-President, Chief F. B. Macatee, Lovington; Vice-President, Chief Tom F. Bonner, Fort Sumner; Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque.

Las Vegas was selected for next year's fire school and convention.

Active members in attendance numbered 127, representing thirty-three New Mexico departments. Out-of-state visitors included two from Denver, Colo.; two from El Paso, Tex.; and two from Juarez, Mex.

Chief Stewart Retires

The Pittsburgh Plate Glass Company has owned and operated three large factories for the past sixty years at Ford City, Pa. The area covered by these factories is one mile long and a half mile wide. Until 1910, the fire department to protect the factories consisted of auxiliary brigades of employees from various departments.

Chief Charles Stewart

In May, 1910, one of the factories was entirely destroyed by fire at a loss of approximately $5,000,000. After this factory was replaced by a larger and more modern factory, the company decided to place a full-time paid fire department in service.

The department was organized and placed in service on September 1, 1911, with Charles Stewart as Chief, which position he has held until the present time. Chief Stewart brought the fire department up to being one of the best industrial fire departments in the state. During 1919 he attended and completed the course prescribed for officers in the Fire College of the City of New York.

Since 1920 he has been an active member of the International Association of Fire Chiefs and of the Eastern Association of Fire Chiefs since it was organized, and has attended the major number of annual conventions of that association. For a number of years he was a member of the National Fire Protection Association.

Now at the age of sixty-five years, and after thirty years as head of the department, Chief Stewart is retiring from active service.

Fire Trucks Collide in Kansas City, Mo.

The collision of two fire trucks, speeding to a small fire in Kansas City, Mo., took the lives of two firemen and injured eight others, four of these seriously. The collision occurred at an intersection, and witnesses attributed the accident to the fact that sirens were shrieking on both trucks, and neither driver was aware of the approach of the other.

"Scarlet Bathtub" to Fight Industry Fires

Under the direction of State Fire Marshal Lydell Peck of California and other state officials, a very unusual looking unit has been designed for use in fighting defense industry fires. In the shop, it was called the "scarlet bathtub," because it looked more like that than anything else to the mechanics who put it together.

The unit, which was built by the F. A. B. Manufacturing Company of Oakland, Cal., weighs 3,000 pounds, loaded, and can be pulled, hauled or dragged to any place it might be needed. It is a trailer, balanced on two ordinary automobile wheels and with provision for placement of a third, tiny wheel at its front so it may conveniently be set up for a time without its towing vehicle.

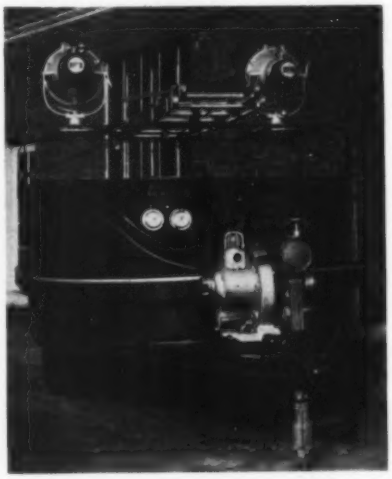
It carries its own coupling, which can be attached to the bumper of any car on the highway, or to a motorcycle tricar or a street car, bus, or anything else handy. In case of need, the trailer can be drawn by hand.

Built into a special niche, but detachable in case of need, is a gasoline driven motor which develops 1,900 watts of electricity, and can be set at anything from forty watts up. It runs two flood lights and the trailer's pumping system.

Attachable are three sizes of power saws, strong enough to cut through an ordinary wall and, some far beyond ordinary strength.

The unit was christened a short time ago, when floods brought power failure in the hospital of a valley town, and the motor was hitched up to operating room lights so a surgeon could finish an operation.

Mounted on top of the trailer is an extension ladder. Mounted around it, in a little trough that does duty as a bumper, is twenty feet of 2-inch hose, used for attachment to hydrants or to draw water from rivers, lakes or any other handy source.



Another View of the "Scarlet Bathtub"

In addition to these the unit carries:

A hundred gallons of water in a fire proof tank to be used straight or as mix for 600 gallons of foam.

A twelve-foot aluminum extension ladder.

Five hundred feet of 1½-inch hose, 200 of ¾-inch hose and other hose capable of bringing three streams to bear on any given fire at the same time.

An asbestos suit for fighting oil or chemical fires and gas masks.

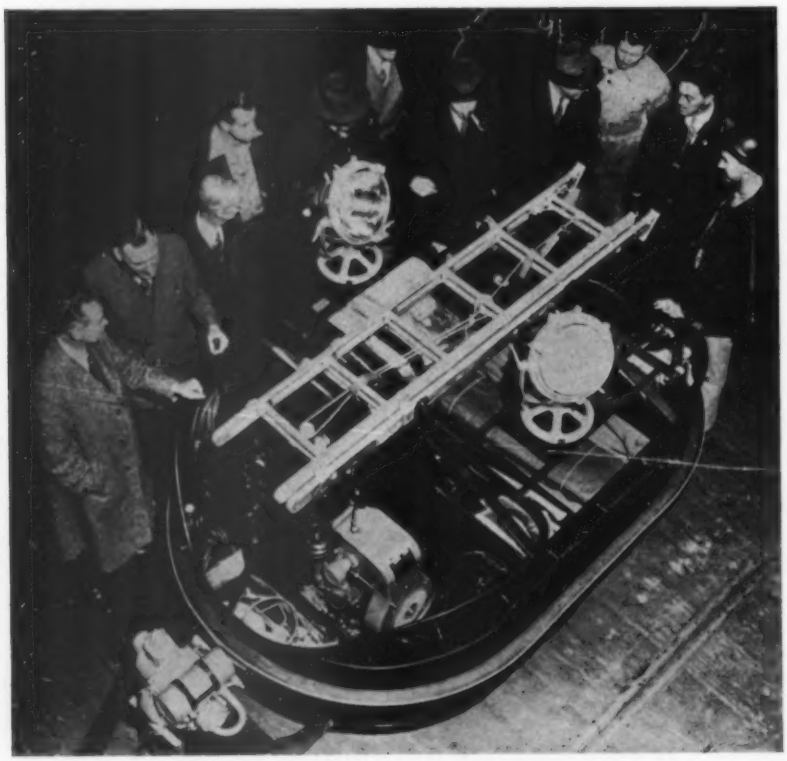
Two 100-foot coils of ⅝-inch rope.

Fire extinguishers, including carbon tetrachloride, carbon dioxide and portable foam units.

Brush hooks, fire rakes, a shovel and axe for forest fires.

In addition there are a portable battery set, flashlights, a spare tire for the trailer and a number of smaller items.

The tarpaulin which covers the whole is an oval affair, with rope bales to permit its use as a life net or, on occasion, as a reservoir from which the suction hose could draw water. The covers of the two floodlights double as tarpaulin buckets.



A View of the Compact Arrangement of Equipment in the Tub

Columbus to Appoint Firemen

The Columbus, Ohio, City Council has approved plans for appointing twenty-five additional firemen to the force, increasing the personnel from 329 to 354. This will permit opening of an engine house to safeguard the $12,000,000 Curtiss-Wright airplane factory nearing completion at Port Columbus.

Chief Jensen Dead

Fire Chief Nels P. Jensen of the Austin, Minn., Fire Department died recently.

Chief Jensen, who was the oldest fire chief in years of service in Minnesota, joined the Austin Hook, Ladder and Bucket Company in 1890. He had been Chief of the Austin Fire Department for thirty-seven years.

Fifty Years a Fireman

On June 17, Chief Franklin F. Dickinson, of Brockton, Mass., celebrated his fiftieth anniversary as a regular fireman. Born in Underhill, Vt., he came to Brockton in 1890 and joined the fire department in February as a call man.

Appointed to the permanent department on June 17, 1891, the Chief rose to Lieutenant in 1905 and jumped to Captain's rank in 1909. He was made Assistant Chief in 1916 and took over as Chief in 1928.

In his fifty years in the department Chief Dickinson has seen the Brockton Fire Department develop from a call department through the days of the horse-drawn apparatus to the well organized department it is today.

Chief Dickinson is well known to the fire service, having served as President of the Massachusetts Fire Chiefs' Club, and now serving as President of the Plymouth County Fire Chiefs Association.

New Pumper for Henry Township

Henry Township, Ind., is planning to purchase a new fire pumper for the use of the township. It will be housed at Akron and manned by Akron firemen, who will be paid for each trip to the country.

First Aid Car Presented to Olympia Fire Department

Emergency Car Presented to Olympia

A dream came true when a fully-equipped emergency service car was presented to the Olympia, Wash., Fire Department. It was purchased through volunteer subscriptions raised by the Teamsters' Union, which underwrote the car. The service car stands as a community project carried out successfully through the generous support of Olympia residents, firms, service and patriotic residents.

The new emergency truck will stand ready to be of service to victims of heart attack, gas, heat, or water suffocation; persons trapped in burning buildings or wrecked automobiles; victims of industrial accidents; new-born children whose respiratory organs fail to function, and a hundred and one other possible mishaps.

The emergency unit will be manned by Asst. Chief Phil Lynch and his aide, Captain Everett Holmes. Every man in the department carries a Red Cross certificate in advanced first aid. In addition, the Assistant Chief is a qualified first aid instructor.

The equipment of the unit includes devices for many emergencies. It has a high output portable generator for its 500-watt floodlight, a piece of equipment which has been badly needed. The rig also has a portable spotlight with dry cell equipment. Other equipment carried includes an inhalator, a resuscitator which is convertible into an inhalator, and spare tanks of oxygen; Army-type stretcher; poles, wire cutters and rubber gloves for rescuing victims from electric wires; rope for removing persons from wells and similar situations; an all-purpose hux bar to cut metal, pull clasps; fire axes, pick, maul, sledge hammer, shovel and tool chest containing saw, chisel and other implements; two hydraulic jacks; splints for arm and limb fractures; fire extinguishers; two sets of drag bars; tanic acid spray kit for burn victims; a hydrant wrench which is also usable to cut off gas lines and water services. Also in the car are blankets, a small life ring, and 100 feet of rope; a short wave receiving set and room for a two-way outfit that the department hopes to get.

The service car, as equipped now, stands as a major contribution toward minimizing accident fatalities in this area, a goal in which all Olympia is interested.

R. E. Holcomb, Chief
Olympia Fire Department

Protective Lighting To Guard Against Sabotage

Proper lighting will aid in the policing of industrial plants and help guard against night sabotage, a prominent engineer told the American Institute of Electrical Engineers at the midsummer convention of the Institute.

H. E. Mahan, manager of General Electric's Illuminating Engineering Laboratory at Schenectady, cited a number of American cases where protective lighting systems already are working in conjunction with other measures to foil the saboteur. He talked on "Protective Lighting Practice in the United States."

The U. S. Government, through its Federal Bureau of Investigation, is encouraging such lighting in industrial plants which the Bureau surveys, Mahan said. Preceding him on the program was E. P. Coffey, Chief of the Technical Laboratory of the F.B.I., who spoke on the role of protective lighting in combating sabotage.

"Ways and means of accomplishing the desired lighting will vary. They include the provision of adequate illumination to detect trespassers, and absence of glare that handicaps guards, or is a source of annoyance to street and highway traffic, marine or railroad operations, or to occupants of neighboring buildings. Dependability of operation of the system is essential, as is a minimum of shadowed areas due to random lamp failures. All lighting equipment and electrical service facilities should be located within the property, or where it is not accessible to malicious damage. Provision for convenient maintenance and centralized control are also important.

"Special attention should be given to such situations as railroad sidings, alleys, roofs of abutting buildings, wooded or water approaches, entrances, and exits," Mahan continued. "These are all means of access that demand safeguarding. And also remember that protective lighting should be so distributed that guards patrolling the property will be concealed from the view of the saboteur."

Two Firemen Killed by Explosion

Two members of the William Cameron Engine Co. No. 1 of Lewisburg Pa., were killed, and twenty-four other firemen were injured, when an explosion blew the wall out of a building in which they were operating on a fire.

The fire started in the shipping room of the C. Dreisbach & Son's Hardware Company. Upon its discovery the three skylights over the room were opened and hole cut in the roof of a small two-story section of the warehouse adjoining it. Four hose streams were directed through these openings from the roof of the warehouse. Another hose line was taken through the warehouse to the door of the shipping room but the men were soon driven back from this position by a blast of heat. They closed the fire door before leaving and the fire did not communicate to this part of the building.

Two hose lines were also advanced through the front of the store toward the shipping room, but this could not be directed on the fire because of a partition and they were withdrawn.

At this point, it was apparent that the fire was making headway and a call was sent for aid to Milton, four miles away. The Milton Fire Department responded with three pumpers and a hose truck.

The fire continued to spread, and the men operating over the shipping, ventilated two sides of the building facing them, by breaking the windows with their hose streams. The windows on the first floor were covered with heavy shutters. An attempt was being made to open one of these windows when an explosion occurred which blew the wall out on the firemen working there. Two of the men were completely buried, one was found immediately with the shutter over him which protected him somewhat. He was dug from the pile and died in the hospital. The other was instantly killed by the avalanche of brick and mortar. Twenty-four other firemen were injured by the shower of bricks and glass. The force of the explosion was so great that store windows a block away were shattered and flying bricks loosened bricks in a building across the street.

Immediately after the explosion, the fire started to spread to the main part of the building. At this point, Mifflinburg, ten miles away, was requested to send a pumper and extra men to fill the ranks depleted by injuries. Eleven streams were playing on the fire at this time. This number was cut to seven streams with larger tips and a three-way deluge set was placed in operation.

The fire was under control by 9 a. m., and the last of the out-of-town companies left the scene at noon. The Lewisburg firemen continued to pour water on the ruins until 3 a. m., the next day. The borough water system was used to supply four pumpers while two other pumpers drafted water from Bull Run two blocks away. These hook-ups were made according to a pre-arranged plan which the Lewisburg Fire Department has for all large buildings within the borough. Approximately 6,500 feet of 2½-inch hose was laid. Although the entire equipment of the Lewisburg Fire Department was used, not one piece of equipment of any kind failed during the fire.

An investigation made to discover the cause of the fire or the explosion met without success.

One Thousand Tons of Scrap Rubber Made This Smoke

1,000 Tons of Rubber Consumed

Eight million gallons of water and twenty-eight hours of effort by five fire department pumpers, were required to overcome the lead gained as the result of a delayed alarm during a recent fire which started from an unknown cause in scrap rubber storage at the Loewenthal Company of Akron, Ohio.

The fire involved a yard containing about 4,000 tons of scrap rubber stored in one large pile. Plant employees attempted to put out the blaze with extinguishers, and it was almost twenty minutes before the city fire department was summoned. This allowed the fire to gain headway and grow into a roaring inferno.

Using a tractor and chain drag, firemen did a good job in clearing a passageway ahead of the blaze and so saved near-by buildings. They then concentrated on beating down the fire itself. When the "all-out" was finally sounded, 1,000 tons of rubber had been consumed. Total damage was estimated at $50,000.

The effectiveness of the emergency aisle space indicates the need for proper division between piles in storage of bulk material of this type.

"Factory Mutual Record."

"Disaster Call" Shows Its Value

A few years ago, Mill Valley, Cal., a little town of about 5,500 inhabitants, added a new signal to its list of fire signals. The new call was termed the "disaster" or "Legion emergency" signal and consisted of three short blasts on the city's fire whistle, repeated four times.

Once in while, drills were held and the "emergency" call given to time the response of the American Legion men and others who responded to the call.

Then, recently, heavy rains undermined several large trees and caused them to crash with an accompanying rush of tons of dirt on a summer home where four persons were readying it for occupancy. A young man and his mother managed to jump out of a window before the house was engulfed by the slithering mud, but his father and an aged man were trapped and crushed by the falling giant redwoods.

The alarm was flashed by neighbors to the Mill Valley Fire Department. Chief David L. Arnst sped to the scene, arriving just in time to shout a warning to early-arriving rescue workers as another slide and more trees crashed down. A call was made to fire headquarters for help, and in a moment the "disaster" call "was being echoed through the hills. In a short time, hundreds of men began to arrive at the scene of the disaster. Working with pick and shovel, ropes and winches, or with their hands, they tore at the mass of debris.

When night fell, Chief Arnst ordered out the department's light wagon and the work continued. Women of the Legion Auxiliary made coffee and sandwiches for the toilers. Soon two of the city's pumpers were ordered to the scene to wash out the mud. The first body was recovered early the following morning. The second was not recovered until the third day. The light wagon was used each night until the second body was recovered. The two pumpers worked for thirty-two hours.

The call demonstrated to the citizenry that the fire department is on its toes. Under the able guidance of Chief Arnst, the department has developed into a well-oiled, if small, machine.

The department consists of seven paid men and twelve call men. There are two 750-gallon pumpers, an American-LaFrance and a Seagrave; a forestry truck, a light wagon, an ambulance and a Chief's car.

All the companies have a first aid kit and all members have Red Cross certificates. Chief Arnst has an instructor's certificate. In addition, more than 200 local residents hold certificates, having completed the course.

The department members have built a four-story drill tower and go through a complete set of evolutions.

Response to alarms depends on the location and call. A house fire gets two pumpers on the first call. Brush fires are attended by one pumper and the forestry truck. The light wagon rolls on everything at night.

The fire limits are divided into forty-five districts, and, while there is no box alarm system, a fire whistle blown by an automatic transmitter announces all alarms. In addition, each fireman, paid and call, has a tapper in his home. Paid firemen work thirty-six hours, are off twenty-four on "call" and then work another thirty-six followed by a twenty-four off. Call men get $2.50 per call.

A fire prevention bureau is maintained. A systematized inspection of business houses is made every thirty days and each residence is visited once a year. A record card is kept for every piece of property in town.

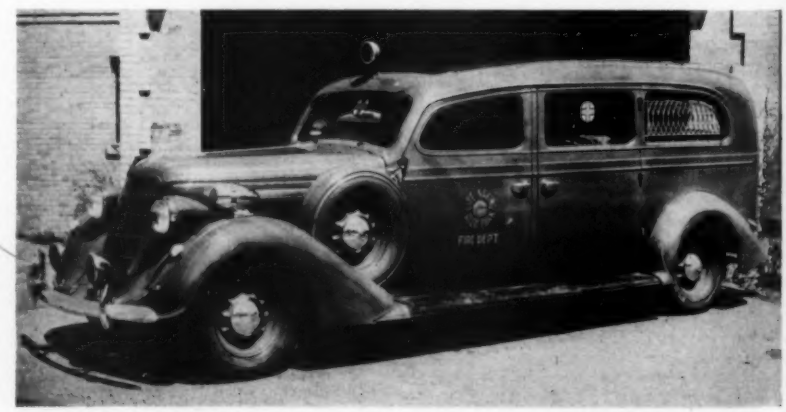
The Mill Valley Fire Department is one of ten Marin County departments participating in a mutual assistance plan which provides for automatic move-up of apparatus from town to town. If a local department is unable to control a fire, the others are notified and provision is made on the running cards for three alarms in addition to the local one. Nineteen pumpers, a hose wagon, water tank and two light wagons are available for the plan plus added help from the Tamalpais Forest Fire District which has eleven three-quarter ton trucks which carry 100 gallons of water, a 100 gpm pump, brush hooks, shovels, brooms and pump cans.

Water is supplied to all these towns from three lakes in the Tamalpais watershed which are inexhaustible. In addition, each town maintains reservoirs in which water is stored so that a break in the main line would not make for disaster. Mill Valley has 15,000,000 gallons in such reservoirs. Hydrants in the down town section have a pressure of 110 pounds and twenty hydrants on one ten-inch main have a static pressure of 175 pounds.

Bob Greenock.

Rescue Squad Has Successful Year

A little over a year ago, the members of the Deer Park, Ohio, Fire Department purchased and equipped an ambulance in the formation of a Life Saving Squad entirely on their own. Members of the squad are all volunteers. During the first year of the squad's activities, ninety-eight hospital cases and twenty-nine automobile accidents were handled. Thirty-six persons were treated at the engine house. All members have been trained in first aid, by the Chief of the department, John Hollatz and George Gassert, the Captain of the Squad, who are both first aid instructors.



The Life Saving Apparatus of the Deer Park Fire Department

Paint Fire Endangers Block

Valiant efforts on the part of the firemen at Bridgeport, Conn., prevented the destruction of an entire four-story brick business block, known as the McMahon and Wren Building on Water Street, recently, when flames swept the heart of the structure and caused an estimated damage of $100,000.

Two alarms were sounded for the fire. The first alarm was received at headquarters at 7:46 p.m. When firemen arrived under command of Chief Martin J. Hayden and Assistant Chief Elmer V. FitzGerald, they found the middle of the structure a roaring inferno as inflammable paint stocks of the Rider, Hayes & Co., paint dealers, and paper stocks in the wholesale store of Nathan Schwarz and Son, fed the flames. At 7:51 p.m. a second alarm was sounded, summoning additional apparatus and all members of the off-platoon to the scene. Recall was at 12:01 a.m.

Due to the location of the building, the fire was difficult to attack. At the rear are tracks of the main line of the New Haven Railroad Company. Before operations could be started with water lines, Chief Hayden ordered the heavily charged power lines of the railroad shut off. Eighteen passenger and three freight trains were delayed for two hours. One of the trains held up was "The Pilgrim," crack Boston to Pittsburgh express. Electrification was shut off from New Haven to Greens Farms during the fire.

As the fire reached paint stored in huge quantities in the store, the flames raced up through the structure and burst through the roof. Two aerial towers and hose lines battled the fire from the Water Street side of the building while several lines were placed at advantageous points along the railroad tracks in the rear.

Tugboats and other vessels moored in the local harbor close by the burning building, played an active part, as several vessels were called upon to pump water and to play searchlights on the scene. Three tugs owned by the Bridgeport Towing Line and moored at the Stratford Avenue Bridge pumped water from the harbor into the rear of the building. The U.S.S. Metacom, a Navy net tender, moored near the tugs, played its powerful searchlights on the burning structure. It was the first fire in that city in many years at which emergency fire boats were pressed into service.

On the first alarm, Engine Companies 1, 3 and 5 responded with Trucks 3 and 5 and Chemical 5. Second alarm companies were Engines 2 and 4 and Truck 6. Over 120 men and nineteen pieces of apparatus fought the fire.

THOMAS F. MAGNER.

Newton Uses Two Platoon System

The Newton, Mass., Fire Department is now operating under the two-platoon system. Each platoon is on duty for twelve hours for three successive days, and on the fourth day they will alternately take over a twenty-four hour watch.

Fire Fighters Win Prize

The Santa Ana, Cal., Fire Fighters Association, Local 509, was awarded a trophy as first prize for "Smokey Stover," their entry in the Comical Division of the Santa Annual Frolic parade on New Year's Eve. "Smokey Stover" was a reproduction on a gigantic scale of a child's toy, and was pulled by Engineers C. N. Turner and M. C. Moore, wearing bright underwear. A regular fire bell mounted on the front was sounded by the mechanically controlled arm of "Smokey Stover."

The Santa Annual Frolic, the second New Year's Eve parade sponsored by the Santa Ana Jr. Chamber of Commerce, consisted of nine divisions of giant toys, comical floats, famous bands, costume acts, grotesque heads and others.

Bridgeport Firemen Combing the Ruins After the Two-Alarm Fire

Volunteers Find Group System Useful

Down in southern Maryland, Charles County covers many miles of rolling, wooded country dotted with small villages and farms. The entire county has but one fire department located at La Plata, the county seat. Eighty-five per cent of the fire alarms received by the volunteers send them on runs of from ten to twenty-five miles.

The firemen have two 500 gpm engines, one of which is required to be kept in town, and an active membership of about twenty-eight men. About eighteen of these men have completed basic and advanced training courses offered by the Fire Service Extension Department of the University of Maryland.

Since forest fire seasons, or times when chimney or lightning fires are numerous, frequently cause two or more alarms to be received at approximately the same time, and since every good fireman wants to go when the first alarm is received, means had to be found to insure a reserve of trained men available at all times. To meet this need, the firemen were divided into two groups, the Hosebenders and the Salamanders. These groups answer all alarms, but only one group goes out on the first call for an out-of-town fire. The groups alternate in answering these calls. With the exception of certain key men, the reserve men fill in when there are not enough men available in the group whose turn it is to go out.

It was found that this insured a few experienced men available at all times, but not always sufficient man-power for the second emergency. To meet this difficulty, the Chief organized a Junior Firemen Company of boys between sixteen and eighteen. These young men have shown promising ability to absorb instructions in fire fighting technique. They handle hose and other equipment well, and, most important, are amenable to discipline. These boys, like their seniors, are divided into two groups under Captains elected in each group. Like the regular firemen, the groups take turns in answering alarms, so carrying out the reserve idea.

A test of this system occurred on May 1. At 1:00 p. m. an alarm was received for a wods fire fifteen miles away. There were only six regular firemen in town when this call was received. Four of the regulars and six Juniors went on this call with the only out-of-town engine. At 1:35 p. m. another woods fire alarm was received, and several more regulars and six Juniors loaded water cans, rakes, etc., into cars and made a twenty-mile run to fight for two hours a blaze that threatened to spread through pine woods to a nearby village. At one time on the afternoon of April 20, when calls were being received faster than they could be answered, three groups of firemen and Juniors were operating on woods fires in three counties, Charles, Prince Georges and St. Mary's. Isn't this some kind of a record?

Needless to say, it is a source of great relief to the Chief when out on an alarm to know that if another fire breaks out before return to quarters, there are trained firemen ready to handle it, and if the fire should demand it, a reserve engine fully equipped.

CHARLES M. LEVERING, Chief
LaPlata Volunteer Fire Department
LaPlata, Md.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

RESULTS OF THE PUBLIC KNOWING THE LOCATION OF FIRES

IT was just a lazy, summer day. There were some cars parked on the village streets—undoubtedly the cars of those who came to the stores to do their marketing. At infrequent intervals, an out-of-state car went by filled with tourists out for a summer holiday.

The scene was typical of any American village, whether it be mid-west or New England.

In an instant, the whole picture changed. The transition was so rapid, it was miraculous. People came rushing out of doorways. The cars that were parked a moment before, were now chugging, as drivers appeared, anxious to be the first to get away. Other cars came rushing by, and then in the distance could be heard the sound of fire apparatus. It was almost like circus day, and all because a fire siren had sounded, and the public were keen to take advantage of any free show, a fire or otherwise.

Naturally, there was a jam on the highways and it was difficult for fire apparatus to get through. But that is one of the problems that must be faced by volunteer departments.

In this issue is a discussion of this question. So many replies were received to this problem, that the discussion will be concluded in the next issue.

Discussion of the Question

Herbert Stutz, Chief, Pitsburg, Ohio: It is my opinion that the public should not know the code or signal numbers. We do not use code numbers here, but have one call for village or rural fires. The calls generally come in by telephone or passing motorists to the signal box,, and usually the department gets away before the public at large knows the location of the fire. That way the road is open to us. I believe that it is a good plan for some of the members of the department to go ahead in their own cars and make way for the trucks. I must say that the people here are very courteous to the fire department and take care not to block the roads.

Maurice E. Farley, Chief, Goffstown, N. H.: We allow the public to have the fire alarm code numbers. We have as yet, however, to find the advantage of this system, but it has been in effect for a number of years and so it is hard to change.

The traffic problem is still a great one. I have a large area to cover and if the police block one or more roads for our use, the public always seems to be able to find a cross road and at times delay the trucks. There have been times when the trucks were stopped for a short period until the police could clear the roads again.

Theodore Palmer, Jr., Chief, Rehoboth, Del.: I do not believe that a volunteer fire department should give the public cards or posters with the district call numbers on them, as quite a number of people would rush to the fire before the company had time to get there and so tie up traffic.

We do not use the card or poster plan. We have quite a problem here any way because in the winter our population is about 1200 and in the summer months it is anywheres from 15,000 to 20,000. We have some members of our department act as police, and also the local police force at the fire hall, as soon as the alarm has been sounded to help us with the traffic. Even with all the help, there is sometimes quite a bit of confusion with everyone trying to get to the fire before the apparatus.

C. R. Mequet, Chief, Jeanerette, La.: Circumstances would dictate the best manner of handling alarms. Where a city has its volunteers scattered throughout the city, it may be well to have each volunteer either know the signals by memory or be supplied with a card designating locations. I don't believe the general public should be informed of the signals.

Not giving out the location of fires eliminates a whole lot of traffic jams and allows the apparatus to reach the scene of the fire more quickly. We get all our fire alarms by telephone. The alarm is sounded with an electric siren. All men are expected to report to the fire station.

The first man reaching the station determines the location of the fire by a special telephoen in the fire station. Only those men on the truck know where they are going. The rest of the firemen usually follow in cars. This gives the truck full right-of-way since no one else knows where that truck is headed for, making it easy for the men to do their work. This method of the "silent signal" has worked fine for us here for many years. Our traffic problem starts when we get ready to return, especially if it's a fire of no consequence. We always get a large following.

As we don't have many police officers, our traffic problem is difficult. This explains in a large way why we had to devise some means of discouraging the public from interfering with the response of trucks to a fire.

Charles P. Loller, Chief, Hamden, Conn.: We distribute cards with all box numbers, headquarters and police phone numbers on it. We are so close to New Haven, and so many families come from there, that they call New Haven. That delays the alarm.

Our police have short wave sets and answer all alarms.

William W. Maxham, Chief, Lynnfield, Mass.: Our alarms, other than still or telephone calls, come over the alarm system which is Gamewell. We have twenty-eight boxes in the town. Our department is an entirely call force. Therefore a coded system is a great help to quicker and more effectual work. It is a decided deterrent, however, as far as the public and traffic is concerned.

We detour all we possibly can, use hose bridges and have the police move as many of the fire fans out of the fire area as possible. Yet the traffic problem, both responding to the fire and at the fire, with a coded signal is very much of a handicap.

W. H. Vaughn, Chief, Cherokee Hose Company No. 1, Cherokee, Kans.: We did give out the code numbers when the water plant used steam for pumping water. We got the engineer to blow so many blasts for the different wards. It worked out pretty well until electricity replaced the steam. With a siren they forgot all about the codes.

The traffic in our little town of 1,300 population goes hog wild when the siren sounds. Some times it is

HERE IS THE PROBLEM

Should a volunteer fire department give to the public (through cards, posters, etc.) the district code numbers, so that the location of any fire may be determined by the public from the number of siren, whistle or horn blasts sounded?

What are the advantages or disadvantages of such a plan?

If you use such a plan, how do you handle the traffic problem in the area adjacent to the fire?

difficult to get the apparatus just where we want it without delay.

I myself believe that code is a fine method, for it is possible then to tell what part of the town the fire is.

LeRoy Minker, Chief, The Community Fire Company, Perryville, Md.: The public is not furnished with the district code numbers. Our code numbers were drawn up to stop so many unnecessary runs outside our district where we were not needed. We do not answer an alarm outside our district until the officer of the company calling for assistance gives their code number and our code number when making the call.

Previous to the adoption of our code, we were frequently called to fires a long distance from our district and when we arrived, they were under control. These calls were not made with the knowledge of the officers of the company in charge of the fire.

The adoption of our code has entirely stopped these unnecessary runs.

I believe our system has the approval of the general public.

R. R. Chase, Chief, Cheshire, Mass.: I do not believe a volunteer fire department should publish through cards, posters, or other methods, the code numbers of fire alarm boxes and locations thereof.

I see no advantage in such advertisement, provided the volunteer department is well organized. The disadvantage of such method is that the public often cuts into traffic ahead of the apparatus, thereby blocking roads and seriously hampering the efforts of the fire department.

As we do not use such a system, we are seldom troubled by the public. A nearby barracks of the State Police gives us very close cooperation in the matter of traffic control.

Arthur H. Whitenight, Chief, Marcellus, Mich.: I don't believe the public should be informed through a code system, of the location of a fire. If such a system is used where there is a volunteer system, the public has a chance to start directly for the fire and in this way block the streets for the fire apparatus.

We have a siren to sound fire alarms and the same signal is used whether the fire is in town or in the country. By this method, we are able to keep traffic behind us while answering a call. We have no telephone operator as we have dial phones. This is a help as people cannot call in and find out where the fire is.

We do not allow cars to travel closer than 500 feet behind our trucks. If we are at a fire, we do not allow any cars (except those of firemen) to drive in or park in the same block with fire apparatus.

For the benefit of any village that has a volunteer fire department and either has or is contemplating an automatic dial telephone system, I would like to explain the method that we use.

We have four one-way telephones. Three of these are in the homes of firemen; the fourth is located on a service station across the street from the fire station. This telephone is connected to a loud bell. The telephone and bell are located outside the building. Anyone wishing to send in a fire alarm simply dials 2,000, and all four phones ring at the same time. No one answers them till after the third ring. The siren can be sounded either from the service station or at the fire station. We have used this method for about three years and find it quite satisfactory. Marcellus was about the first town in this part of Michigan to use this system. Since then other communities have adopted the same system.

N. L. Barker, Chief, West Point, Ga.: We have our district code numbers published on the outside of telephone directories, and from time to time in local papers. The reason we have district code numbers, primarily, is to notify our volunteer firemen. The reason we publish them is to let our citizens know where the fire is not, thereby reducing the anxiety on the part of citizens in other districts and reducing the number of telephone calls.

Two policemen follow the fire trucks to the scene of the fire in residential sections and regulate traffic with more or less success.

We find traffic conditions are worse and harder to handle in residential districts than in business sections.

Paul D. Joyce, Chief, Haines City, Fla.: I do not. believe volunteer fire departments should publish their code numbers as it causes too much interference with the operation of fire equipment.

We do not allow parking within two blocks of the fire.

Victor Malloure, Chief, Caruthersville, Mo.: We make no effort to inform the public of the location of a fire, but the telephone company calls the person whose property is involved; also the owners of property that might be endangered.

The public as a whole is not informed of the location, but we make no effort to keep them from coming to the fire, as a volunteer fire department must exist on its popularity. It is the public who demands that the city officials give the department what it wants. A fire is the biggest free show that the public can get. The city officials have instructed the police to attend all alarms and handle the traffic.

We have a public alarm that sounds when there is a fire. The members have a code number that the telephone company knows. They give the firemen the location.

C. Rush, Chief, Asheboro, N. C.: I believe it is a mistake for a volunteer department to publish in any form the fire code signals. Yet we must realize that we are public servants. We frequently have visitors who ask the signals, and of course, we are polite and courteous and go through with this explanation, hoping all the while that it will be forgotten before leaving department headquarters. The curious public can and does prove to be a menace to the volunteer firemen. If they know the signals, these citizens, in a number of instances, arrive at the fire first and park their cars in the way of fire trucks.

My experience in handling this situation is to have the policeman serve the offender with a summons and see that he pays the fine. Warnings do no good.

C. Y. Lyons, Chief, Arcadia, La.: I believe a volunteer fire department should give the public some method of knowing where a fire exists.

My reason for giving the public this information is that it makes it possible to get a fire alarm in more quickly, thus saving the department several minutes.

The fire department is notified by telephone as to the exact location of a fire. In this way they get a head start on people who want to go to the fire.

We use an electric siren for our fire alarm. The town is divided into four districts. One long blast is for District One; two long blasts for District Two; and so on through the four districts. We have firemen on each truck who handle traffic in the district of the fire. The Mayor and Council back us up in any method we choose. People are advised through the paper not to rush to a fire when they hear the alarm. Of course, many people fail to observe this paper method and it sometimes becomes necessary for the firemen to block off traffic.

J. Earle Tabor, Chief, North Smithfield Volunteer Fire Department, Forestdale, R. I.: We are a private corporation and cover under contract the whole town of North Smithfield which is composed of several villages covering a radius of about seven miles.

Our alarms are handled by telephone at the station with a siren there to call the men. Our station is covered at all times, night and day, by some one of the thirty men or five officers.

We do not give out information as to the location of the fire, and are not troubled with traffic problems very much.

I believe that if the general public were informed of the location of every fire, this would cause quite a traffic problem.

J. W. Daniel, Chief, Carroll, Iowa: Under no consideration should the fire alarm be given to the public because it immediately results to a disadvantage in keeping the streets open for more equipment in the event the firemen need it to perform their job.

We used the ward system and discontinued same as we found the area within two blocks of the fire congested with traffic to such an extent that if we needed more equipment, we would not have been able to get it there.

At present we are using a straight fire alarm.

Walter B. Smith, Chief, Freeport, Me.: I do not believe that the district code

(*Continued on page* 354)

This Discussion Will Be Continued

Due to the many who contributed to this discussion, and the limitations of space, this discussion will be concluded in the next issue.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Friction Loss and Discharge

To the Editor:

1. How many gallons of water are there in a 50-foot section of 2½-inch hose when completely filled?

2. A line of 2½-inch hose 300 feet long is laid to a "Y" connection from which two 200-foot lines of 1½-inch hose are stretched. What will be the friction loss? What will be the discharge at 75 pounds pressure at the plug or pump?

3. Using 125 pounds at the plug or pump, what will be the friction loss? What will be the discharge?

Answer 1.: The volume of water in the hose may either be calculated directly in cubic feet or cubic inches, and then changed to gallons. The cross-section area of the hose must first be found, and this area multiplied by the length of the line of hose to determine the volume.

But observe the precaution; if the volume of the contents of the hose is to be determined in cubic feet, the cross-section area of the hose must be calculated in square feet; if the volume of the hose is to be calculated in cubic inches, then the cross section of the hose must be calculated in suare inches, and the length of the hose must be taken in inches.

Solving the problem by the second method, the procedure would be as follows: Cross section area of hose = 2½ × 2½ × 0.7854 = 4.90875 square inches. Length of hose is 50 feet, or 600 inches. Cubic contents of hose is then 600 × 4.90875 = 2,945 cubic inches. Now, one gallon of water contains 231 cubic inches. In the 50-foot section of 2½-inch hose there are 2,945 divided by 231, or 12.75 gallons.

Answer 2. No nozzle diameter is given, and therefore we will assume that there is a ⅝-inch nozzle on each of the two branch lines.

Two ⅝-inch nozzles are equivalent in area to a ¾-inch nozzle.

200 feet of 1½-inch hose is equivalent to 200 ÷ .074 = 2702.7 feet of 2½-inch hose.

Two parallel lines of 2½-inch hose, secured by reducing the parallel lines of 1½-inch to 2½-inch, are reduced to a single line by dividing by 3.6.

2702.7 ÷ 3.6 = 751 feet of 2½-inch hose, which is the equivalent of the two parallel lines of 1½-inch.

The total of 2½-inch hose is then equal to 751 + 300, or 1051 feet of 2½-inch hose in the entire layout.

N. P. = E. P. ÷ (1 + KL)

This formula, in which the figure 1 instead of 1.1 appears in the parenthesis, is used to give more accurate results than would be accomplished by the usual formula applied to a small nozzle.

K, for ¾-inch nozzle on 2½-inch hose, is .0318

L = 1051 ÷ 50 = 21.02

N. P. = 75 ÷ (1 + 0.0318 × 21.02)
= 75 ÷ 1.668 = 45 pounds presure approximately.

Friction loss = 75 — 45 = 30 pounds.

Answer 3: If the engine pressure is 125 pounds, then nozzle pressure is equal to 125 ÷ 1.668 = 75 pounds approximately.

Friction loss = 125 — 75 = 50 pounds.

Complex Pressure Problem

To the Editor:

An engine is pumping at 175 pounds pressure through 300 feet of 3-inch hose siamesed into two 2½-inch lines.

One line, 350 feet long, is stretched to the roof of a 5-story building, allowing 10 feet per story, using a 1⅛-inch nozzle. The other line, 400 feet long, is stretched to the top of a shack twenty-five feet high, using a 1¼-inch nozzle. What is the nozzle pressure at each nozzle? What is the discharge from each nozzle?

M. V.

Answer: The only practical way of solving this problem is to average nozzle diameters, combine the lines, average the back pressures, and then solve for the nozzle pressure on the combined nozzles.

After this pressure has been secured, calculate the discharge through the layout, and then figure the friction loss from the engine to the siamese connection. Deduct this friction loss from the engine pressure, and you will have the pressure at the siamese connection. Considering this pressure at the siamese connection as engine pressure, solve for each line separately.

Combine lines and nozzle:

Average the lengths of the two lead lines:

400 + 350 = 70

750 ÷ 2 =375 feet, the average length of line.

Combine these two practical lines into a single line of 2½-inch hose.

375 ÷ 3.6 = 104 feet of 2½-inch hose.

Change the 3-inch hose to 2½-inch.

300 ÷ 2.6 = 115 feet of 2½-inch.

Then the layout is equivalent to a single line of 2½-inch hose 104 + 115 = 219 feet in length.

Combine the two nozzles.

1⅛-inch × 1⅛-inch = 1.265625.

1¼ × 1¼ = 1.5625

1.265625 + 1.5625 = 2.828125

The square root of 2.828125 = 1.681 inches.

This is the diameter of the combined nozzles.

The nearest standard size nozzle to this diameter is the 1⅝-inch, which has a diameter of 1.625 inches.

Average the back pressures:

50 × .434 = 21.7

25 × .434 = 10.85

21.7 + 10.85 = 32.55

32.55 ÷ 2 = 16.275 pounds, the average back pressure on the two lines.

Solve for nozzle pressure:

First deduct the back pressure from the engine pressure.

175 — 16.275 = 158.725 pounds.

N. P. = E. P. ÷ (1.1 + KL)

E. P. = 158.725 pounds

K for 1⅝-inch nozzle and 2½-inch hose = .680

L = 219 ÷ 50 = 4.38

Then N. P. =158.725 ÷ (1.1 + .680 × 4.38)

=158.725 ÷ 4.0784

= 39 pounds approximately.

The flow frm the combined nozzle equals 29.7 × 1⅝ × 1⅝ × $\sqrt{39}$

= 490 gallons per minute approximately.

Now to find the nozzle pressure at each separate nozzle, we first calculate the pressure at the siamese connection.

The friction loss in 300 feet of 3-inch hose carrying 490 gallons per minute = (300 ÷ 2.6) × (2 × 4.9 × 4.9 + 4.9) = 60.868, or 61 pounds.

The pressure at the siamese is then 175 — 61 = 114 pounds.

Using this siamese pressure as engine pressure, find the pressure at each nozzle separately.

Calculating for the pressure at the 1⅛-inch nozzle we have:

Back pressure = 50 × .434 = 21.70

Corrected engine pressure = 114 — 21.7 = 92.3 pounds.

L = 350 ÷ 50 = 7

K =.167

Then N. P. = 92.3 ÷ (1.1 + .167 × 7)
= 92.3 ÷ 2.269 = 40.5 lbs. approximately

The discharge at this pressure will be approximately 294 gallons per minute.

Find nozzle pressure on 1¼-inch nozzle

Back Pressure = 25 × .434 = 10.85 pounds.

Corrected engine pressure = 114 — 10.85 = 103.15 pounds.

L = 400 ÷ 50 = 8

K =.248

Then N. P. = 103.15 ÷ (1.1 + .248 × 8)
= 103.15 ÷ 3.084 = 33.4 pounds approximately.

The discharge from the nozzle at this pressure will be approximately 266 gallons per minute.

Note that the discharge from the two nozzles is equal to 560 gallons per minute, while that from the combined nozzle was 490 gallons per minute. The error is due chiefly to using a 1⅝-inch nozzle as the equivalent of the combined nozzle. The combined nozzle had a diameter of 1.681 inches the 1⅝-inch nozzle is equal to 1.625 inches.

A 1¼-inch nozzle equals 1.75 inches.

The combined nozzle actually was midway between 1⅝ and 1¾-inch. The use of this standard size nozzle in place of the actual diameter of the combined nozzle was the chief cause of the error indicated above.

Tiburon to Have Department

Tiburon, little community of several thousand inhabitants in Marin County and on San Francisco Bay just opposite Angel Island immigration station, is going to have its own fire department at long last.

For years, the little community has been protected by the fire department of Belvedere, located on an island just to the west. Belvedere is connected with Tiburon by a causeway. Another causeway connects it with the mainland to the north.

The national emergency has caused many of the small cities of Marin County to make plans for enlarged departments. That, coupled with a desire to lower insurance rates, caused the commissioners of Tiburon Fire District to confer with District Attorney A. E. Bagshaw on the legal phases of a contract with the Mack International Motor Truck Company.

The commissioners are reported to have chosen a 500 g.p.m. pumper equipped with a power take-off, a 300-gallon water tank, 1000 feet of 2½-inch hose and 500 feet of booster line. It will also be equipped with several small ladders and standard equipment.

BOB GREENOCK.

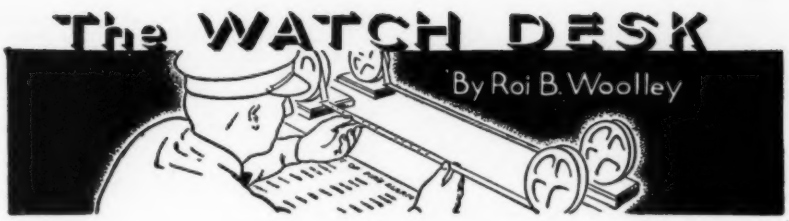
Malden Ex-Fire Chief Loses Court Fight

A decision of the State Supreme Court upheld the action of Commissioner Lorrimer T. West of Malden, Mass., in abolishing the position of Fire Chief held by William J. Dooling.

The Court declared that the issue of economy in discontinuing the fire chief's post was just cause, and that the tenure of office act could not affect the act of the Fire Commissioner in abolishing the post.

Old Fire Apparatus

This 75-year old bicycle is owned and was ridden by Ex-Chief J. Lewis Chapman of Engine Co. No. 2, of Rutherford, N. J., in the New Jersey and New York Volunteer Fireman's Association Annual Parade held recently in Garfield, N. J. Chief Chapman is showing how he responded to the fire alarm 45 years ago when he joined the department. He was Chief in 1917 and is still doing active duty.



Our inquiring reporter overhauls the firemanic news of the day

Chief Has a 'Private Fire!'

From Contrib' Edw. Nelson, we get this 'un: The Asst. Chief of the Maderia, Ohio, and Vicinity Vol. Fire Dept. lives in adjoining part of Engine Co. 1's house. He works at night; comes home about 4.30 a.m. On the morn' of April 17th, he arrived home, parked his automobile, as usual, in the Engine Co. quarters, and went to bed for what he thought would be a peaceful slumber. Along about 7.15 a.m. his daughters got up as usual to go to school and found smoke in their room. Very much excited, they called their father. He "responded" promptly, went into the Engine room and found it completely filled with smoke. Investigating his search led him to—his automobile. The rear seat was in flame. And so the Chief had a nice little "private" fire, (oh, no, he wouldn't call the company!) What a ribbing *he* got!

* * *

"Old Mollie" Gits Thar!

According to clipping sent by Brother Dunning, Randolph, Me., F. D., "Old Mollie" is the Clinton, Me., Vamp's chief piece of apparatus. And do they keep Mollie all duded up! Well while Old Mollie was still dripping fresh red paint, administered earlier in the day, the alarm came—from the Holt farm—and out went Mollie, with five of the Brothers. Mollie did pretty well until almost within sight of the fire, when she became mired in the oozy road. Nothing daunted, the Brothers procured a tractor, hooked Mollie on behind, yanked her right through the fields to the scene of the fire! Unfortunately, by then one farm had been levelled by flames, but aided by their "Moll," the Vamps successfully fought the raging forest fire that originally had ignited the farm, and prevented flames from reaching several other structures. Covered with glory—and paint and blisters—the Vamps got back to their quarters, with "Old Mollie" looking a bit "peckish." Yeah—she's shed most of 'er decorations, and the Brothers hadda "make her up" all over again.

* * *

Vamps Pinched for Speeding!

Two Vamps of South Nyack, N. Y., F.D., who admitted they refused to heed a policeman's command to stop while driving to a fire, were found guilty by Judge C. P. Wadsworth of failing to obey a reasonable order by a policeman, and each was fined $5 (but sentence was suspended). Trial, which lasted hour and a half, was attended by fifty other firemen. Indignant at outcome, they instructed F. R. Engels, counsel for the pair to appeal the case. The firemen were members of the Jackson Eng. Co., Nyack, and Empire H & L Co. of Upper Nyack. Geo. C. Ward, special officer in South Nyack said they failed to stop at his command while driving their own cars to a South Nyack garage fire.

* * *

Orchids to Toledo Rescue Squad

Sharon Lee Smitley, infant daughter of Mr. and Mrs. Huston Smitley, Toledo, is alive because a physician and Toledo's F.D. Rescue Squad refused to quit although they fought for 36 hours against great odds. Sharon, born shortly before 11 a.m. on a Sunday, showed difficulty in breathing and attending physician Dr. F. N. Hayward called F.D. Rescue Squad under Karl Scheidler chief drillmaster of F.D. and desperate battle began. Sunday and all day Monday the squad in two shifts, with Dr. Hayward, fought to save infant's life. A total of 2,600 gallons of oxygen and carbon dioxide were used by firemen who never wavered. Fellow firemen called at house to volunteer services.

Clock in Smitley home was striking 10 Monday night when Dr. Hayward shook hands with squad, said *"You and your apparatus saved the day."* The baby during 2-day fight was bedded on kitchen table, kept warm under several blankets and heating pad. At 4.42 Monday p.m. the squad was re-called when it was feared baby was sinking but after five minutes of administering oxygen baby was out of danger. Cost to the T.F.D. $28—but, say Chief Fred Schlorf, *"it was well worth it!"*

* * *

Cat-astrophy

Here's a Ripley from our Michigan newsgetter, "C. M." It's about Henry Baltima of Benton Harbor, Mich., his furnace, his cat and his fire! Seems his furnace exploded. It ignited the fur of his cat. The cat ran for the barn and hid in the hay. The barn took fire. Mr. Baltima got busy on the barn fire and forgot the fire in his house. That burned to the ground. So did the barn! And Mr. Baltima went to hospital with third degree burns. The fire, incidentally, was his second in a year. He had just completed the new two-story frame dwelling to replace the one destroyed by fire.

* * *

Boone Brothers Boggle at Blaze!

Musta been a bit annoying to say the least to the Boone, Ia., Brothers, when in response to an alarm, they pulled up at the hydrant nearest the burning home—WITHOUT A HYDRANT WRENCH!

Too Late to Classify!

There's the item about Snyder Carter, Evansville, Ind. fireman for 49 years, due to retire at 70, this year, but who won't quit. *"Mebbe Evansville can't use a fireman 70 years old but I know a city that can" sezze. . . . "that's London, and London's my next stop!*

* * *

Out'n Pendleton, Ore., Jack Folsom, County Recorder smelled smoke, traced it to floor below in County Jail. An Indian woman, imprisoned on minor charge, had started a campfire to relieve the gloom of her temporary tepee.

* * *

Members of Chester, Pa., fire company left funeral services being held for a comrade to put out a fire in a florist's shop. Two pumpers, parked outside church were rushed to blaze, used, then rushed back in time to carry flowers to the cemetery.

* * *

Then there's the one about Vamp Thomas Beedle of Lebanon, Ohio, who was working in the Eagle's Hall, when town fire alarm sounded. Out dashed Beedle to the fire station. Hopping aboard the truck, he inquired "Where's a fire?" The apparatus took him right back to Eagles' Hall, where basement blaze did little damage.

* * *

Meanest man! In Richmond, Va., a motorist's car burst itno flames and he rushed into a gasoline station, where the proprietor extinguished the blaze. When the question came up of paying the cost of re-filling the fire extinguisher the driver demurred. Magistrate Gentry, to whom case was taken, ruled that he couldn't be compelled to pay for it.

* * *

Hot Off the Tape

Believe it or not, Capt. Jack Rhein, Santa Cruz F.D. dug up by accident metallic box containing collection of old English coins, some dating back 200 years. . . . A lone woman, among 63 defendants on trial for smoking in N. Y. C. subways was fined one buck by Magistrate Curran who said "the age of chivalry is gone." Might be good idea to discipline a few of those many women (and men) who smoke in department stores right under the "NO SMOKING" signs. . . . Mrs. Madge Foodall, N. Y. City, was found dead 11 hours after she had refused treatment for burns suffered when her dress caught fire in her kitchen. . . . In a 4-alarm fire in N. Y. City, an old firehouse was destroyed. . . . Fire hose lines were used in strike riot at Trenton, N. J. . . . A navy blimp, used in helping fight some of many recent forest fires in New Jersey, hadda make a forced landing, luckily, outside fire area. . . . Organizer Mike Quill, center of labor disturbances in N. Y. City, now threatens to "organize" New York firemen. Mayor LaGuardia, N. Y. C., commenting on Quill's threat, before 3,000 members of F.D. Holy Name Society said: "The firemen of New York will follow the leaders of the Transport Workers Union (a Quill group) when the Statue of Liberty throws her torch into the Bay." . . .

* * *

Hot Seat—Red Faces ('n Other Places)

Chief Cornelius McCullough, Lansdowne, Pa., knows a fire when he feels one, according to item from Earle Robinson. Driving a pumper truck back to to the station from one blaze, the chief found he was getting a "hot seat" and upon investigation discovered he was sitting on a nice little fire, under the driver's seat. Prompt action by the Brothers and chemicals from another pumper cooled fire, and Chief's sittin' down place.

Arson Convictions Increase

On the whole, there was no material increase in the crime of arson in the United States last year and the ratio of convictions obtained to arrests made has continued to improve, the Committee on Incendiarism and Arson reported at the 75th annual meeting of the National Board of Fire Underwriters at the Waldorf-Astoria Hotel in New York on May 28.

During the past year the Committee's agents investigated and reported on 2,685 fires of suspicious origin, 137 less than during the preceding year, the Committee reported. Arrests on charges of arson in cases in which the National Board's agents participated in 1940 totalled 647, as compared with 602 during 1939. Convictions totalled 394 as compared with 343 in 1939 and there were 95 acquittals last year compared with 89 the previous year. Based on these figures the Committee drew the following conclusion:

"From these figures it appears that although there were only 45 more arrests this year than in the preceding year, an increase of slightly less than 7½ per cent, there were fifty-one more convictions than last year, an increase of slightly over fifteen per cent. On the other hand, the acquittals were only six more than in the previous year, an increase of less than 7 per cent.

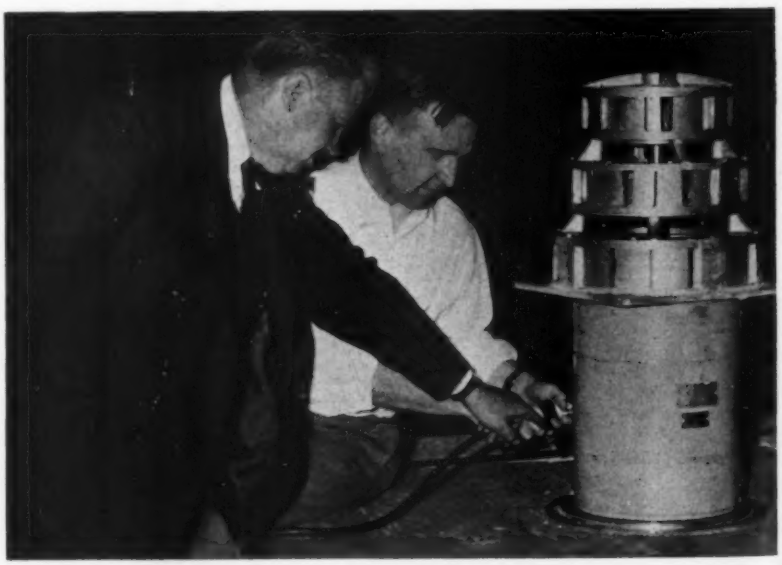
"The encouragement and guidance given to states and municipalities in creating forces of special investigators to deal with arson cases represent another very important contribution which the Committee has made. Either through state fire marshals or police organizations, most states now employ trained men for this purpose and hundreds of cities and counties now have fire marshals or arson squads. The employees of this Committee have contributed greatly to the education and training of these men, and as a result the forces available at present for work of this type are more numerous and conditions more satisfactory than ever before.

"The decision of the Committee to conduct its work on a quasi-public basis and the policy of the member companies to subordinate claims under policies to the interests of the State in criminal cases have done much to further the cause of arson prosecutions throughout the country and have brought to the insurance business the admiration and sympathetic cooperation of prosecuting officials.

"In recent years the agents of the Committee, in cooperation with public officials, have been especially successful in breaking up professional rings in the large population centers. The Committee believes that such rings have been almost exterminated and that ordinary cases of arson have been greatly reduced in numbers."

Priority Granted for Fire Service

The office of Price Administration and Civilian Supply at Washington announced on July 1 that priority status will be given to material and equipment required for operation of various civilian industries and public services, including the fire service.



U. S. Siren Used in Newark Blackout

This seven and a half horsepower siren, manufactured by the U. S. Siren Company of Brooklyn, N. Y., was used from the roof of the annex of the City Hall in the Newark blackout, and was in addition to the seven other sirens described in the June issue of this journal. Gus Mayer, an engineer for the manufacturer, and Gervaise Chittlick, a city engineer, are seen tuning up the siren.

Among the Fire Fans

By Otis Smith

INFORMATION on the origin of the sliding pole was sent in by Wm. H. Wallace, 198 Linden St., Rockville Center, N. Y., and E. E. Douglass, 33 Walnut Street, Medford, Mass. They report that the first pole was introduced by members of Engine 21, Chicago, in 1878. The pole superseded the sliding chute, then in use in many fire stations. The first pole was of wood. They differ on the location of the first metal pole; Mr. Wallace naming Chicago, while Mr. Douglass gives Worcester, Mass.

Knowing that buffs are interested in new and unusual apparatus, this writer has arranged to receive photographs and data on such apparatus. American-La France obliged with six photos and data on two types of engines. Three of the photos are interesting views of three pumpers recently delivered to Los Angeles County, Cal. The pumpers carry 1,000-gallon water tanks, arranged in compartments of 167 gallons each. Piping is connected so that water may be pumped from or to any one compartment, or from or to the entire tank. Eight discharge gates for 1-inch and 1½-inch hose are at the rear of the body, while the 2½-inch outlets are on each side. A total of 2,700 feet of hose are carried.

Also from the same firm are three photos and data on Airport Crash Cars, an especially interesting type of apparatus. This writer will be glad to furnish additional information on the photos, or show them to buffs in the Baltimore area. Those writing are requested to enclose a self-addressed stamped envelope.

The June issue of the "Phoenician News" reports that two additional fireboats are now in service in the San Francisco Fire Department . . . . that department also has in service, the largest and most powerful tow truck in fire service on the West Coast. Stanley H. Sugarman, Compilator of the "Phoenician News" would like to correspond with other buff groups. His address is 1045 Cabrillo Street, San Francisco, Cal.

The "Phoenician News" is available to fire fans who care to send the Compilator one dollar to cover costs of printing, mailing, and other expenses.

A copy of the new by-laws manual of Box 9 Assn., Attleboro, Mass., has been received from President J. W. Wolfenden. The book also lists the Attleboro fire boxes and signals. Headquarters of this fire fan club is at Central Fire Station in Attleboro.

Harry Breen is the new Chief of Box 35 Associates of Minneapolis, Minn. Mr. Breen's address is 3116 4th Street, North, Minneapolis. H. Peterson is Deputy and Jack L. Chrissinger is Secretary. Mr. Chrissinger also announced the birth of his son, Edson Lyman Chrissinger, on April 28.

An interesting account of the New York Fire Department action during the Baltimore Fire of 1904 was presented in the New York paper W.N.Y.F. A slight correction is in order, regarding one paragraph in the story. Baltimore had a 14-alarm fire on Feb. 15, 1941, not a 19-alarm fire. Assistance was not received from any other department, the only action taken was to recall the off-shift to duty to man reserve apparatus. Outside of that error, the account is interesting. During the Baltimore fire of 1904, the officer commanding the New York companies reported to his superior in New York by telegram. This is the Department's only record of an officer "reporting in" by such means.

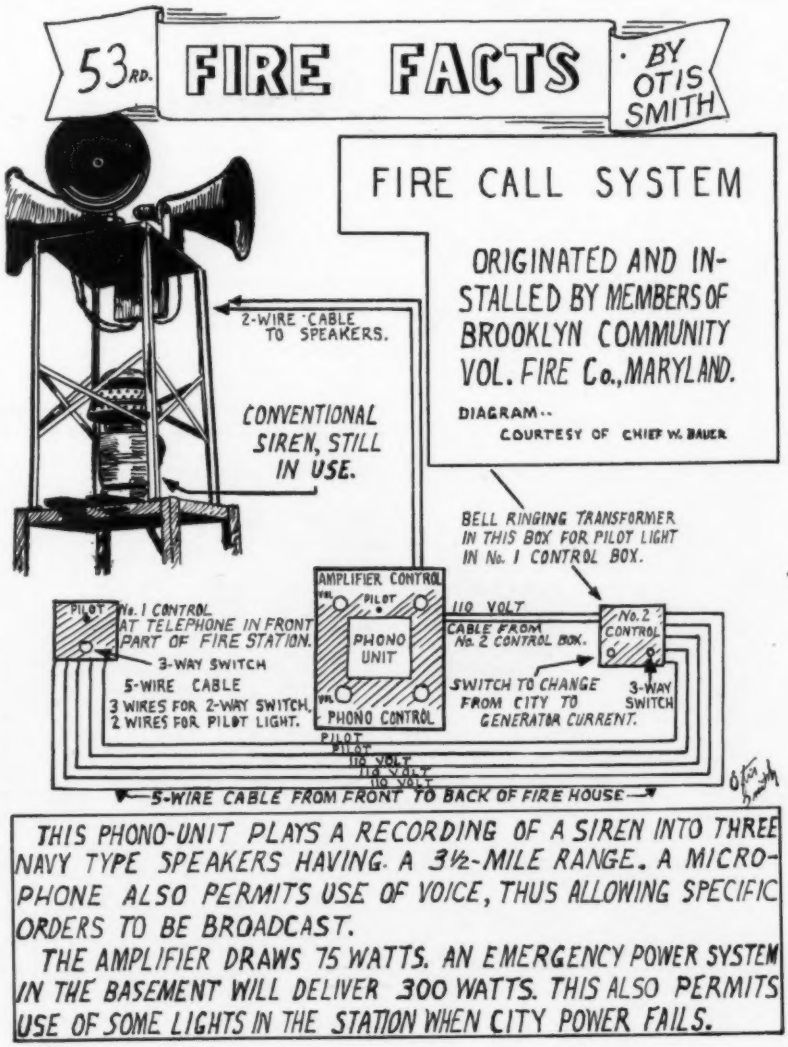
Note to Readers: At a recent fatal fire on the Washington Blvd., near Washington, D. C., this writer noticed numerous persons taking pictures of the activities. He was on the fire engine first in at this fire and held the nozzle of the first hose line put on the fire. Many of the camera users were from cars with license plates from various states. A possibility exists that one of the many fire scene snappers on the scene may also be a reader of this column. If so, kindly contact this writer, as he has a personal interest in the affair.

To Joseph Krucher, 307 East 73rd St., New York, N. Y.—this writer has never heard of a fire fan club in Los Angeles. The only West Coast club known to me is the Phoenix Society of San Francisco.

Emmons E. Douglass is head of the Mystic Sparks Club, youthful buff unit of Medford, Mass. . . . Howard Larcombe and Art Cline of Washington, D. C. enjoyed a picture snapping tour of the Baltimore Fire Department a few weeks ago. Apparatus was snapped while at Sunday drill. As usual, the gong remained quiet out of respect for visitors, and no fire scenes were available. This writer now has a fairly representative set of photos of District of Columbia fire apparatus, via the trading route.

Deasy Available as Lecturer

Retired Battalion Chief James J. Deasy of Greenville, N. Y., formerly of the New York Fire Department, is open for engagements to address employees and plant officials in industries where the hazards of sabotage, rush of production and related activities have materially increased fire hazards. Lectures will cover various fire department topics, including fire losses, economic loss from plant shutdown due to fires and other related and associated circumstances.


53RD. FIRE FACTS BY OTIS SMITH
FIRE CALL SYSTEM
ORIGINATED AND INSTALLED BY MEMBERS OF BROOKLYN COMMUNITY VOL. FIRE Co., MARYLAND.
DIAGRAM.. COURTESY OF CHIEF W. BAUER
2-WIRE CABLE TO SPEAKERS.
CONVENTIONAL SIREN, STILL IN USE.
BELL RINGING TRANSFORMER IN THIS BOX FOR PILOT LIGHT IN No. 1 CONTROL BOX.
AMPLIFIER CONTROL
PILOT
VOL.
PHONO UNIT
PHONO CONTROL
No. 1 CONTROL AT TELEPHONE IN FRONT PART OF FIRE STATION.
3-WAY SWITCH
5-WIRE CABLE
3 WIRES FOR 2-WAY SWITCH.
2 WIRES FOR PILOT LIGHT.
110 VOLT
CABLE FROM No. 2 CONTROL BOX.
No. 2 CONTROL
SWITCH TO CHANGE FROM CITY TO GENERATOR CURRENT.
3-WAY SWITCH
PILOT
110 VOLT
110 VOLT
110 VOLT
5-WIRE CABLE FROM FRONT TO BACK OF FIRE HOUSE
THIS PHONO-UNIT PLAYS A RECORDING OF A SIREN INTO THREE NAVY TYPE SPEAKERS HAVING A 3½-MILE RANGE. A MICROPHONE ALSO PERMITS USE OF VOICE, THUS ALLOWING SPECIFIC ORDERS TO BE BROADCAST.
THE AMPLIFIER DRAWS 75 WATTS. AN EMERGENCY POWER SYSTEM IN THE BASEMENT WILL DELIVER 300 WATTS. THIS ALSO PERMITS USE OF SOME LIGHTS IN THE STATION WHEN CITY POWER FAILS.

FALSE ALARMS

"I did notice smoke out this way, but that was yesterday

GROUNDS FOR DIVORCE

Rastus' lawyer was informing him on the legal status of his matrimonial relationship and his chances for a divorce. "Mistah Brown, I have discovered I kin get you a divorce on account of her father. He had no license to carry a gun."

A SLIGHT MISTAKE

Theatre Detail: "I hear you and the leading lady are on the outs."

Electrician: "Yeah, it was over one of those quick change scenes with the stage all dark. She asked for her tights, and I thought she said lights."

Once there was a bride who loved her trousseau so, and then there was the groom who loved her torso so, and that's how her trousseau got tore so.

GIFTS

Three morons were sitting on a curb watching people go by.

1st moron: "Do you see that lady with the fur coat? Well, I gave it to her."

2nd moron: "Do you see that lady with the blue roadster? Well, I gave it to her."

3rd moron: "Do you see that lady with the little boy? Well, that's her brother."

HELP WANTED

New maid (screaming in the night): "Help! Help! Madame! Help!"

Madame (awakening): "Be brave, Mimi. My husband is a policeman; I'll call him and send him in there."

New maid: "But, Madame, that's just it. He's in here now!"

INSTRUCTIONS

Fire Inspector (to colored guard at plant): "If anything moves, you shoot."

Negro guard: "Yassuh, an' if anything shoots, ah moves."

You can lead a horse to water, but a golf ball must be driven.

NEGATIVE MOTION

Some towns in the country have very rigid rules, with regard to the speed of fire trucks going to and from a fire. In one town having such rules, the driver of one of the local fire trucks was brought into court on a charge of excessive speed.

Driver, before the Judge: "Your Honor, I was not going forty miles, not even twenty miles, in fact, when the officer appeared I was almost at a standstill."

Judge: "I must stop this hearing, or we'll have you backing into something."

It's better to have your boss fire you with enthusiasm than to fire you with two weeks' pay.

Nowadays an average husband's income is around two in the morning.

Once there was a street cleaner who was so absorbed in his work that he couldn't keep his mind out of the gutter.

Girls who start out playing with fire water usually move right along to playing with fire.

The Jockey who won the recent Kentucky Derby attributes his success in piloting the winning horse to his continual whispering in the horse's ear a little poem he made up. It went like this: "Roses are red, violets are blue, horses what lose, are made into glue."

"Fourth and Spruce St. please . . .. and step—on it"

Correspondence

Letter from Abroad

To the Editor:

I always thoroughly enjoy reading your most interesting periodical FIRE ENGINEERING and largely take what it says as "gospel," but I am sorry to say that I have had several quiet laughs over the article in your December issue dealing with the subject of incendiary bombs. The laugh was because the words were almost exactly like what we had been taught before the war. Actual experience, however, is far removed from it.

Our experience is somewhat as follows: These gifts of the "dear Jerry" come in loads of at least a hundred—probably many more in small areas. Those that cause the trouble are the ones that lodge on, in or between roofs. Those that go straight through to the top rooms are dealt with either by picking up by the fins and throwing through the window (if the person is present during the first three minutes) or by using the spray from any small water supply. In fact, with quite a small amount of training, anybody with a "tin hat," keeping his eyes well protected by the rim and almost lying on the floor can use a small jet all the time, probably working the bomb into some place like a fire place where it can be dealt with in the manner of dealing with a small domestic fire.

The bombs that land in the open simply have a sandbag or dry earth dumped on them by any cripple who happens to be on the scene.

As for bombs in the roof spaces, it is, of course, a matter for trained personnel, who invariably apply a jet, taking the necessary precautions against spluttering in order to make the bomb burn as fiercely and quickly away as possible, so as to cause as little water damage as possible beneath. The trouble comes in buildings, such as churches with lofty boarded roofs, too high for the usual A. F. S. equipment. The bombs lodge between the tiles and the boarding so that the incendiary has a good chance of having the roof going well before the arrival of a major appliance.

The reason for this nonchalance on our part is, I believe, due to the fact that we were trained with English practice bombs—in comparison with which the German ones are more like damp squibs with regard to spluttering—surrounded by "fire-devils" soaked in paraffin and situated in a hut that was sealed to retain the smoke. When you find yourself on a nice airy roof with timbers and plaster which do not readily ignite, you will appreciate that the job seems somewhat easy.

You are probably thinking "that chap has got a good opinion of himself, and what about the big fires in London."

My reply is that your article described bombs dropping in ordinary places, and I have tried to show how we go about it under the same circumstances. You will, of course, realize that thousands of bombs were showered on high buildings in London with nobody on the spot to prevent them from catching hold. These buildings were old, dry as tinder and so cramped together that all the ingredients of a conflagration were presented, aggravated by the blocking of roads and disruption of water supplies by the mixture of high explosive bombs deposited at the same time.

Now hoping this has been of interest to you, and that it does not smack of presumption from someone very junior in service years, I remain

Sincerely,
B. W. CLARK, Section Officer,
Ilford A. F. S.,
Ilford, England.

Practices of Lewiston, Ida.

To the Editor:

We are a very small city with less than 11,000 people, have two fire stations and will have six trucks as a new 1,000-gallon pumping engine was purchased recently. This will give us the following equipment: One Seagrave hose truck that carries 1,500 feet 2½-inch hose and 800 pounds of foam powder, and foam generator—One 1,000-gallon Stutz pumper carrying 750 feet of 2½-inch hose and 500 feet of three-inch hose—One 350-gallon Cadillac pumper carrying 500 feet of 2½-inch hose and salvage equipment—One Pirsch 65-foot aerial truck—One 500-gallon G. M. C. pumper with 350-gallon booster tank, 1,300 feet 2½-inch hose and 600 feet 1½-inch hose. Then the new truck will be a Kenworth 1,000 gallon pumper with a 150 gallon booster tank. All trucks carry at least 200 feet of 1½-inch hose and 200 feet of one-inch booster hose.

We have also adopted a program of replacing the old alarm boxes with the new Three-Fold Gamewell boxes. This is being done at the rate of five to seven new boxes each year. A new Peerless Transmitter was also installed last year.

The regular firemen have been increased from nine in 1938 to eighteen in 1941. There are also eight call men that sleep in the two stations.

Fire prevention work goes on all the time. We have a radio program every Tuesday night, run articles in the local paper about twice a week and have two firemen in uniform out in the business district inspecting and stressing fire prevention every day except Sunday. We also do a great deal of fire prevention work in the schools.

The picture herewith shows a home that was blown to pieces in our city a short time ago. This was the result of the male occupant of the house smelling gas, going to the basement to investigate and lighting a match. The pictures tell a pretty good story.

Neither the man or his wife was killed in the explosion, but both were injured.

The gas company here supplies butane gas.

Yours very truly,
D. RICHARD GILL
Chief, Fire Department,
Lewiston, Idaho

Special Fire Marshal's Division Formed

The Bureau of Fire Prevention of the Fire Department of Knoxville, Tenn., has recently organized a Special Fire Marshal's Division, made up of employees of industrial plants, stores, warehouses, etc.

A Chief Fire Marshal has been selected in each of these establishments, who will attend monthly meetings arranged by the Bureau of Fire Prevention.

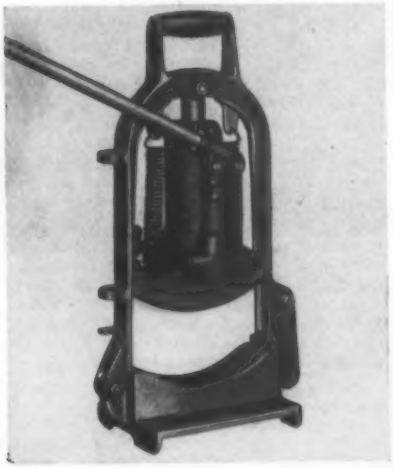
At the present, there are sixty-eight members. A large percentage attended the first meeting held recently, at which a great deal of interest was shown. Membership cards were issued to each Chief Marshal, and later badges will be bought by the city and issued.

This organization is a very progressive step forward in fire prevention, and a safeguard against sabotage which is of special vital interest to the fire service at this time.

C. M. JOHNSON, Chief
Knoxville, F. D.

The Result of Looking for a Gas Leak With a Match

SPEED *plus* SAFETY *with* The B&L *Hydraulic* HOSE SHUT-OFF



Designed by a Fire Captain — the B & L Hose Shut-Off is constructed to give maximum safety to firemen and at the same time function with all-important speed.

A recent fire department test showed that the B & L Hose Shut-Off required only 6 seconds to shut off a 2½" hose delivering 75 lbs. hydrant pressure. The same jack required only 10 seconds to shut off a 2½" hose delivering 150 lbs. engine pressure and 12 seconds for 250 lbs. engine pressure.

HERE IS TREMENDOUS POWER MADE GENTLE AND EASY TO CONTROL

SEND FOR FREE DESCRIPTIVE LITERATURE.

LANGE TRACTOR-EQUIPMENT CO. DULUTH, MINN.

Patented in United States and Canada

Manufacturers' Announcements

New Apparatus For Downingtown

A new streamlined quad and a 750-gallon triple combination truck have recently been delivered to the Borough of Downingtown, Pa. These trucks were built by the Autocar Company of Ardmore, Pa.

The chassis of the quad is equipped with an under-the-seat engine which gives the convenience of a reduced over-all length for even a long body and equipment and at the same time provides a proper balance of weight distribution between the front and the rear axles. The body of the quad was supplied by the U. S. Fire Apparatus Company of Wilmington, Dela., the special engine cowl is by Autocar and the two-stage 750-gallon centrifugal pump is by Hale.

The fire fighting equipment on the triple combination pumper was supplied by the U. S. Fire Apparatus Company.

Downingtown, with a population of only 4,645, is the center of a large and very prosperous farming area, and, in addition to its proximity to Philadelphia, is only eight miles east of Coatesville which is an important manufacturing center and the headquarters of an airport, U. S. Veterans' Hospital and many steel manufacturing plants.

Industrial Products Moves to Larger Quarters

In the interest of better service to its customers during this "National Emergency," the Industrial Products Company announces its removal from 800 West Somerset Street to larger quarters at 2820 N. Fourth Street, Philadelphia, Pa.

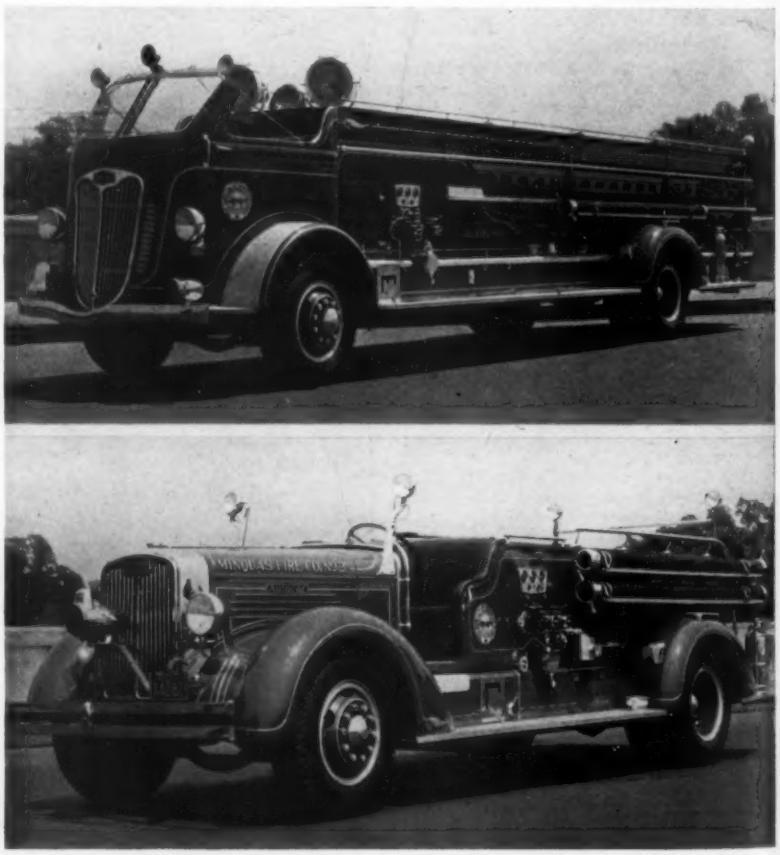
New Tire Conducts Electric Charges

The B. F. Goodrich Company, Akron, Ohio, recently placed on the market a tire made of a special rubber compound which has high electrical conductivity. While the tires so far manufactured have been for industrial plant equipment, the time may come when all tires used on tank trucks transporting inflammable liquids may be made of the same substance. This would solve the problem of grounding the trucks to prevent the hazard of static electricity spark.

Portable Fire Escape Announced

The E. & E. Manufacturing Company of Detroit, Mich., recently developed a portable fire escape, the B-E Evacuator, which will quickly and safely evacuate people trapped on the upper floors of burning buidings.

The Evacuator, which is made in three types, can be carried by one man, or raised along with the aerial ladder, and attached to the sill of a window or to



Autocar Apparatus Delivered to Downingtown, Pa.

Upper—Streamlined quad to be stationed in the firehouse of the Alert Fire Company No. 1. Lower—750-gallon triple combination pumper for use by the Minquas Fire Company No. 2.

the roof of a building. The bottom of the chute is easily held by two men. Speed of descent can be controlled by altering the angle of the chute.

Nevada Firemen Meet

The Sixth Annual Convention of the Nevada State Firemen's Association was held in Lovelock, Nev., on May 24 and 25.

On the program were Chief Jay W. Stevens, Bureau of Fire Prevention, National Board of Fire Underwriters, San Francisco, Cal.; Bart Arundel, Secretary of the Northern California Firemen's Association, who spoke on "The Need of Organization," and Chief L. W. Moody, Elko, Nev., who spoke on Elko's new fire fighting apparatus. In addition a demonstration of the Disaster Unit of the State of California, and a lecture and demonstration by D. A. Bering, Fire Prevention Engineer of the Shell Oil Comapny were given.

New officers elected by the group include the following: President, Emmett Murphy, Reno; First Vice President, Chief Alex Glock, Gardnerville; Second Vice-President, Harold Spoon, Fallon; Secretary, First Assistant Chief E. R. Simms, Sparks; Treasurer, Lieutenant H. S. Foote, Sparks; Directors, Steve Carman, Pioche; Chief Karl Olfers, Lovelock and Chief Fred Stallard, Yerington.

Michigan Chiefs Meet

The Southeastern Michigan Fire Chiefs Association held their regular monthly meeting in Milan on June 11. Nearly forty members were present.

The meeting was called to order by the President E. Rector, Assistant Chief of Grosse Point Park, who introduced Mr. A. N. Squires, Jr., Village Clerk of Milan who gave the welcoming address to the members.

Mr. Arnold Renner, Chief of the Fire Marshals' Division of the Michigan State Police, gave a report on the new laws passed by the Legislature affecting the fire service and introduced Mr. Fitch, Assistant Attorney General who gave some interesting remarks on the new Fire Prevention Bill.

Mayor Carey of Dearborn gave a short talk on sabotage and its control as a subject of grave concern for all fire departments in areas producing defense materials.

Otto J. Lindemeyer, Fire Marshal, Detroit, Mich., gave a talk on what the city fire departments are doing to insure safety and fire prevention.

J. T. CLARK,
Chief,
Milan, Mich.

Memphis to Retire Firemen

Eight captains, one lieutenant, six privates and one alarm operator of the Memphis, Tenn., Fire Department are being retired. Before retirement, six of the eight captains are being raised to the rank of assistant chief; one lieutenant, four privates and the alarm operator are being promoted to the rank of captain; one private is being promoted to lieutenant; all will be retired on half pay.

Upon the retirement of these men, there will be no one in the department over sixty years of age.

FIRE CHIEFS

When attending the Boston Convention, August 18-23, a cordial welcome awaits you at the

QUAKER
FIRE HOSE BOOTH 35

Ask Progressive Quaker's Representative to show you the Hose that Fire Chiefs everywhere are using.

FIRE HOSE · FORESTRY HOSE
CHEMICAL HOSE · SUCTION HOSE

Multiple Jacket Hose made in four distinct and different constructions.

If you're unable to meet us at the convention, write for the new Fire Hose Folder and Samples before placing your next order.

QUAKER RUBBER CORPORATION
PHILADELPHIA

NEW YORK · BUFFALO · CHICAGO · MEMPHIS · HOUSTON · SAN FRANCISCO

SEALAND CENTRIFUGAL PUMPS

Give your community the extra protection assured by the new Sealand midship-mounted, power take-off centrifugal pump.

The new Sealand can be used either as an auxiliary booster pump or as the sole means for community fire fighting service.

It comes in either 150 gallon or 300 gallon capacities, delivery pressures from 120 lbs. to 400 lbs., and is adapted to use either ¾" or 1" chemical hose, or 1½" or 2½" fire hose.

It is so inexpensive, your budget can afford it. Write today for further details.

Patent Applied For

THE SEALAND CORP.
Centrifugal Pumps—Fire Alarm Systems—Modern Fire Apparatus
SAUGATUCK, CONN.

FIRE FIGHTERS APPRECIATE

M&H

VALVES HYDRANTS *and* PIPE LINE ACCESSORIES

A. W. W. A. HYDRANTS *Underwriters Approved*

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

M & H Fire Hydrants are dry top and revolving head. They are easy to lubricate. Maintenance costs are low, due to simplicity of design and rugged construction. They have low friction loss and great efficiency because barrel diameter is not reduced and there are no working parts or obstruction in waterway. Special Traffic model is designed to yield at the ground line under impact. Repair is simple and easy by renewing breakable bolts and breakable coupling on stem.

M&H VALVE AND FITTINGS COMPANY

ANNISTON, ALABAMA

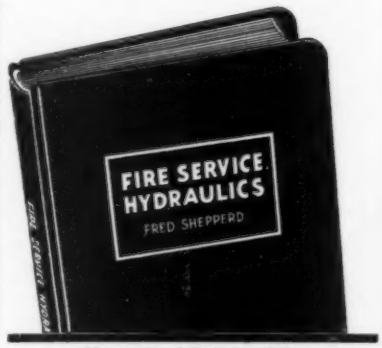
WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of June, 1941. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending June 30	Loss in Thousands of Dollars
Norfolk, Va. — Blassingham Lumber Co. damaged	65
Ketchikan, Alaska—Business district badly damaged	250
Glasgow, Ky.—Hayes Wholesale Grocery destroyed	70
Camden, N. J.—Store of Whitehill Furniture Co., damaged	50
Miller, S. Dak.—J. W. Johnson store destroyed	65
Prescott, Mich.—Ogegaw County Consolidated School destroyed	65
Jacksonville, Fla.—Clyde-Mallory whse. and piers and Steamer Seminole	80
Blakely, Ga.—Grammar and high school bldg. destroyed	50
Chicago, Ill.—Plant of Poray, Inc., damaged	50
Denver, Col.—Auto repair and paint shop at 449 Broadway, destroyed	50
Charlestown, Mass.—Plant of Waverly Heating Supply Co., destroyed	125
Cincinnati, Ohio—Westwood Planing Mill Co., damaged	65
Lakeland, Fla.—Barnes Packing House, six mi. out	100
Kezar Falls, Me.—Mill of Gleen Bobbin Co., destroyed	50
South Gardiner, Me.—Five bldgs. and yards of Kennebec Box & Lumber Co.	170
Leominster, Mass.—Property in business district	50
Paterson, N. J.—Silver Rod Drug Store, Main St., damaged	50
Bremerton, Wash.—Parker Lumber & Whse. Co., destroyed	50
Rockland, Mass.—Gladstone business block damaged	50
Salisbury, N. C.—Negro school destroyed	50
Eugene, Ore.—Seth Laraway business bldg. destroyed	170
Chicago, Ill. — Property at 3237-49 West North Ave., damaged	170
San Francisco, Cal.—Plant of Heating Equipment Co., damaged	65
Somerville, Mass.—Yards of Adams Coal & Wood Co., destroyed	65
Vancouver, B. C.—Excelsior Paper Stock Co. Ltd., adj. welding shop	125
Modesto, Cal.—Bldg. at Gallo Winery destroyed	170
Lisbon, N. H.—Church and adj. business property	50
Bakersfield, Cal. — Property of Bakersfield Grain Co., destroyed	50
Riceboro, Ga.—Mill of Rathborne Hair & Ridgway Co., destroyed	125
Chicago, Ill.—Plant of Chicago Mill & Lumber Co., damaged	65
Salisburg, Md.—Shopping district damaged	200
Sumner, Ill.—Grade and high school bldg. destroyed	65
Emporia, Va.—Box mill of Emporia Mfg. Co., destroyed	125
Morden, Manitoba—McCabe Bros. grain elevator and adj. property	150
Stillwell, Ind.—School bldg. damaged	75
Cincinnati, Ohio — Artyle Industries plant damaged	50
E. Cleveland, Ohio—Plant of Viking Air Conditioning Corp., destroyed	75
Yelm, Wash.—High school bldg. and adj. property	60
Evansville, Ind.—Three crude oil tanks at plant of Evansville Refinery	60
Gilbert, Ariz.—Mill and whse. of Tremaine Alfalfa Ranch & Milling Co.	170
Grimsby, Ont.—Plant of Horrocks-Ibbotson Co.	50
Macomb, Ill.—Macomb Motor Co. property	50
Syracuse, N. Y.—Plant and machine shops of Syracuse Brick Co.	50
Martin, Tenn.—Industrial Arts bldg., Univ. of Tennessee, Junior College	50
Wichita Falls, Tex.—Archenhold Auto Supply Co., destroyed	80
Cincinnati, Ohio—Plant of Herschede Hall Clock Co., damaged	60

A NEW BOOK

Every Progressive Fire Fighter Needs



254 pages, 185 illustrations, flexible Fabrikoid binding.

BRINGS thoroughly up to date the subject of hydraulics as it pertains to every phase of fire fighting—in simpler, more understandable, and more complete form than ever. Not only that, it embraces, as well, many important new angles that have never before been covered anywhere. There are several brand new formulas, originated by Mr. Shepperd, and even old ones have been simplified or revised for greater accuracy.

"Fire Service Hydraulics" is a book every progressive fire fighter from the Chief down needs and should have. It is a "must" particularly for men studying for promotion because it gives the answers to many new questions that are bound to come up in future examinations.

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Check or M.O. enclosed ....
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Name .....

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Anacortes, Wash.—Box factory and mill of Anacortes Lumber Co. 65
Vallejo, Cal. — Crowley's department store damaged 80
Chicago, Ill.—Plant of the Agar Provision Co., damaged 80
Oxford Heath, Minn.—Property of Oxboro Milling Co., and Texaco filling station.... 50
Ogden, Utah—Plant of Associated Canneries, Inc., destroyed 60

New Apparatus Needed at Des Moines

By E. L. Robinson

Des Moines, Iowa, with a population of 159,000, an area of some 56 square miles equaling 38,000 acres with 810 streets and a mileage of 650, is protected from fire by a fire fighting force under the command of Chief Charles L. Slade. This force of 199 men are manning 23 fire fighting units.

Some of these units are modern and many are obsolete types up to 27 years old consisting of one aerial ladder, five service ladders, 11 pumping units, four hose units and one emergency unit.

The emergency unit put in service in 1919, 22 years ago, is obsolete.

The fire hazards number some 500,000 which include residences, apartments, business houses, churches, schools and other miscellaneous hazards.

The need of the Des Moines Fire Department are the replacement of obsolete apparatus, the relocation of some fire stations and the addition of more firemen.

With the exception of new headquarters and engine company No. 17, no additional fire stations have been built since 1900, notwithstanding the increase of population and buildings.

Firemen's Training Conference to be Held

The Third Annual Pennsylvania Firemen's Training Conference will be held at State College on August 25 to 29. A very fine program devoted largely to the subject of war emergencies has been prepared by the committee. Speakers scheduled to appear at the meeting include Dr. David J. Price of the Department of Agriculture; W. Fred Heisler, Oklahoma A. & M. College; Horatio Bond, Chief Engineer, National Fire Protection Association; Hubert Walker, American-LaFrance-Foamite Corporation; Professor Amos E. Neyhart, Pennsylvania State College and T. Alfred Fleming, Chief of Conservation, National Board of Fire Underwriters.

In addition to the above, a number of manufacturers will give demonstrations of their products.

Special lectures on the subjects of inspection practices, extinguishment of oil fires, rural fire fighting problems, life saving paraphernalia, dangerous gases—respiratory protection, history and development of pumps, arson and sabotage, modern methods of maintenance, protection of forests, and gas mask instruction will also be included in the program.

Chief Schultz Killed in Accident

Chief Elmer Schultz who has been fire chief in Palm Beach, Fla., for approximately twenty years was killed instantly in an auto-truck collision while he was on a fishing expedition to Lake Okeechobee.

For Safety

Fire Extinguishers must be strong.

Only the

FOAMITE F. D. S. AND ROUGH RIDER

Fire Department Fire Extinguishers are tested to

550 pounds.

Fire department extinguishers are used more roughly and more frequently than industrial types. Due to the shut-off, they develop a high internal pressure which remains not only for minutes, but sometimes for hours. Hard use and high pressure require strong extinguishers.

The Foamite F. D. and Rough Rider are built to take this punishment. They are the only Fire Department extinguishers strong enough to be factory tested at 550 pounds.

The Rough Rider has no complicated mechanism for operating, yet will not spill.

Only Foamite Extinguishers use the genuine Foamite 3-package charge, have a solution metering mechanism, and produce 25 gallons of Firefoam.

Be safe—insist upon Foamite F. D. S. and Rough Rider Extinguishers.

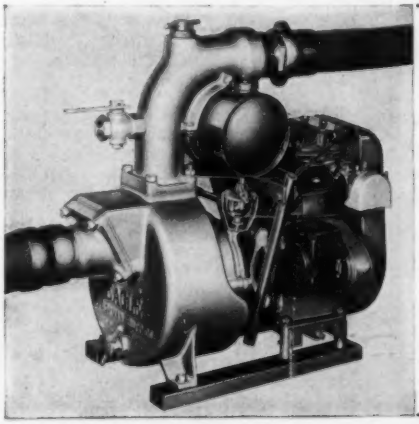
Free—write for your copy of our chart, "Characteristics of Fire Extinguishers."

LaFrance-Foamite offers the most complete assortment of Fire Fighting Equipment.

Fire Defense Is National Defense

AMERICAN-LAFRANCE-FOAMITE CORPORATION

ELMIRA, NEW YORK, U. S. A. DEPT. A



WHEN FIGHTING RURAL FIRES
Get water to your pumper
with this
PORTABLE BOOSTER PUMP
Pumps from Well - Lake - Stream, through 250 feet of fire hose.

- Easily carried by two men
- Occupies but little space
- The price is surprisingly low

DISTRIBUTORS WANTED
Descriptive Circular Sent on Request
THE GORMAN-RUPP CO.
Mansfield, Ohio

When considering an

INHALATOR or RESUSCITATOR

be sure to investigate the

EMERSON RESUSCITATOR, INHALATOR & ASPIRATOR

In your fight against asphyxial death from smoke suffocation, drowning, shock, etc., you owe it to your community to employ the most modern and effective equipment known to medical science.

See and examine for yourself our combination three-in-one apparatus.

We believe you will be glad you consulted an organization which has probably had more experience in pioneering modern improvements in various types of breathing equipment than any other in the world.

J. H. EMERSON CO.
22 Cottage Park Ave.
Cambridge, Mass.

The Round Table

(*Continued from page* 343)

numbers should be given to the public.

Our siren is not coded so that as a general rule we are on the way ahead of the public. This experience makes me believe that it is an advantage to a volunteer fire department to know the location of a fire before the public.

John H. O'Lexey, Chief, Jessup, Md.: I do not believe the public should be given the district code numbers used by the volunteer fire department.

I do not see any advantage to have every Tom, Dick and Harry knowing where the fire is. Only members of the department should receive the call. If you let everyone know where the fire is, they would all jump into their jallopies and be there before the apparatus arrived. The result would be that the roads would be filled with cars and there would be no place for the apparatus to travel. The only thing you would have to show for your efforts would be a black chimney, if that, too, hadn't fallen before you got the road cleared for the apparatus.

We do have our troubles with traffic. The travelling public generally come to the scene of the fire before the department is well under way, and start to fill up the roads with cars which the fire department has to worry about when they arrive. Of late, we have been notifying the police when we leave for a certain area and they are generally there opening up the road when we arrive. Those people who leave their cars in the road wind up in the police court and leave with a lighter pocket book. As a rule, they do not come back for seconds.

Charles T. Hudgin, Chief, Cynthiana, Ky.: One of the advantages of the public knowing the code is that if they know the fire is not in the district of their homes or businesses, they will not interfere with the fire department and will not chase the apparatus.

The disadvantage, on the other hand, is that it gives the fire apparatus chaser a chance to try to beat the fire department to the fire and thereby causes a traffic jam which makes it almost impossible for the fire apparatus to get through. We will always have a lot of trouble with traffic to some extent. I can't see why the fire department has to put up with apparatus chasers. They violate safety ordinances as much as does the motorist who runs red lights. I believe this practice could be stopped by giving offenders a summons and subsequently a fine.

Cecil M. St. John, Chief, Albany, Ind.: In our town of 1,700 population, we were forced to discontinue the sounding of ward numbers on the siren due to the traffic problem. The public does not realize how much hindrance they are to a company by rushing many machines into the fire district.

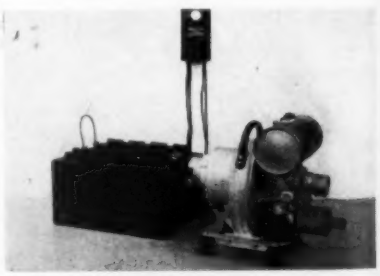
Years ago when we used the old hand equipment, we sounded the wards on the siren, but with motor equipment, every precaution must be taken to keep the streets clear.

R. P. Robinson, Chief, Brilliant, Ohio: We discontinued the practice of

IN CASE OF EMERGENCY

Grab a Homelite Portable

FOR FLOODLIGHTING—A Homelite Portable Generator puts power right in the palm of your hand—1800 watts where you need it and when you need it—enough electricity to operate brilliant floodlights for fires or construction work, or for emergency lighting in hospitals, airports, public buildings. Complete unit weighs only 83 pounds, complete with built-in gasoline engine. Easy to put into operation. Sure to stay in operation without manual attention.



FOR STAND-BY POWER—In case of power failure, use your handy Homelite Generator to maintain communications and fire or police signal alarms. Or you can use it for charging telephone batteries or for central station lighting, oil burner operation or running electric tools.

Send for bulletin showing all the models and everything they do.

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807 Riverdale Ave., Port Chester, N. Y.

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Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch.

WANTED

Jobbers to sell our New Improved Morning Pride Firecoat, with Scientific designed Wing Freedom Sleeve. Write today. Morning Pride Mfg. Co., Dayton, Ohio.

sounding code signals several years ago. Regardless of how fast we were, the curious autoist beat us to the fire and blocked our way.

At the present time, we have several street sirens well distributed over town. We are fortunate in still having telephone operators instead of the dial systems as we are strictly a volunteer department and it is not practical for us to have regular drivers. To sound an alarm, the party calls central, notifies her of the location of the fire and she sounds the sirens which are operated by a clock mechanism which sounds intermittently for three minutes and then shuts off automatically.

All members report to the fire station on the sound of the alarm. The first member reporting gets the location from central and drives the No. 1 truck to the fire, taking all members present. Those reporting later take No. 2 truck and follow. The last to report take the squad car.

Outlying members using their autos will head for the fire station, and if they meet the trucks, will turn and follow. Other vehicles are prohibited by ordinance from following within five hundred feet of a fire truck or parking within five hundred feet of burning building. Spectators are not allowed within 100 feet of the burning building. If the pubic wants the location of the fire, they can call central. Sometimes they give us a hot chase to get there first.

Robert J. Shifler, Chief, Boonsboro, Md.: Our town has a population of 1,000, and has a five h.p. siren with no coded system. It has five call boxes which are located in central parts of the town. A siren of this type is an advantage over a coded one in our town, as we are all volunteers and we need the men when in town or out.

The company has three fire police sworn in by the County Sheriff who are trained in keeping the cars and people from closing the main roads or streets. To date it has proved very satisfactory.

Amherst Department Has Trailer Pump

Last summer, the Amherst, Mass., Fire Department finished building a trailer pump under the direction of Deputy Chief Leon Burrows. It was built using a four cylinder motor. Its rotary pump delivers 175 gpm at seventy-five lbs pressure.

OF COURSE YOU ARE COMING TO THE I. A. F. C. CONVENTION AUGUST 19 TO 22 IN BOSTON!

Of course you will want to see the display and factory of MASTER-LIGHTS—by far the finest and most complete line of Fire Department and Defense Emergency Lights made!

OF COURSE YOU MUST SEE AND TRY THE "HOT-SPOT DETECTORS" LOCATING HIDDEN FIRES BEHIND WALLS!!!

WELCOME TO BOSTON

MASTER-LIGHT MAKERS
CARPENTER MANUFACTURING CO.
CORNER SIDNEY AND ERIE STS. CAMBRIDGE, MASS.

Specify HALE

FIRE PUMPS HALE CONSHOHOCKEN PA.

------ because HALE FIRE PUMPS are sold only to manufacturers of quality fire apparatus.

Write today for the catalog and folders on the complete line of Hale Pumps.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

A MUST *under the* NATIONAL DEFENSE PROGRAM *the* WHEAT SPOT-LIGHT

The strain of National Defense production puts a greater strain upon the Fire Departments that must protect industry. Equipment built for endurance as well as efficient service is the by-word of today's purchases in the fire service equipment field.

The Wheat Spotlight with its 25,000 candlepower light and its 1000-hour endurance battery is therefore a MUST for your Department. Its light weight and convenient shoulder strap allows the operator to have both hands free for other firemanic duties. It has either Spot or Flood reflectors and is invaluable to all departments large or small.

Write for full information.

KOEHLER MFG. CO.
MARLBORO, MASS.

A BADGE *to be proud of*

For the past 60 years we have supplied the fire fighters of America with the finest badges they have ever worn.

We maintain a group of skilled workmen for the express purpose of making these badges. We supply them with only the finest of metal. The badge they make for you is without doubt the best you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

C. G. Braxmar Co., 242 W. 55th St., N. Y.

BRAXMAR BADGES
Standard for over 60 years

Connecticut Defense Council Meets

A meeting of the Fire and Police Chiefs of Connecticut was held at the State Armory in Hartford on June 26.

The meeting was called by Colonel Fisher, Chairman of the State Defense Council. The chairman addressed the group on plans for defense throughout the state and State Police Commissioner Hickey spoke of plans for police and fire departments.

A state school for air raid wardens will be conducted at Yale University in New Haven during July. An evening school for the same purpose will be conducted in Hartford at a later date.

A system of uniform identification cards for emergency was adopted. The priority of fire departments was talked of so that equipment may be obtained in a reasonable length of time, and it was decided to send suggestions to Mayor LaGuardia.

A committee of chiefs was named by Commissioner Hickey to confer with him in regard to the fire defense program in the state. The following were named: Chief George B. Milne, Rockville; Chief Thomas H. Shipman, New London; Chief M. W. Lawton, Middletown; Chief Michael T. Keena, Hartford; Chief Paul P. Heinz, New Haven; Chief Thomas F. Cavanaugh, Waterbury; Chief James W. Swan, Seymour; Chief M. J. Hayden, Bridgeport; Chief Victor H. Veit, Stamford and Chief John S. Pachl, Annex Fire Department, New Haven.

Novel Stunt Prevents Confusion

The Garden City Park, N. Y., Fire Department has instituted a method of avoiding confusion at fires, where too many men want to do one type of work. This stunt consists of painting on the back of each coat the type of duty which the wearer is to perform. The coats are stacked on the apparatus, in a different order each time, and as the men take the coats from the pile, they must perform the line of work indicated by the numbering on the coat. Thus there is never a shortage of men for such unpopular tasks as overhauling and picking up after the fire.

Chief Dowling Has Long Record

Fire Chief W. Q. Dowling, one of the first men to be added to the Jacksonville, Fla., Fire Department immediately following the great fire of May 3, 1901, has completed forty years of service with the department.

From a rookie, he became foreman of Station No. 4 in 1905 and in 1919 he was advanced to engine foreman at Station No. 2. The next year, in 1920, he became third assistant chief and six years later he attained the rank of second assistant chief.

He was made first assistant chief in 1928, and deputy chief in 1930. Upon the retirement of the chief he was elevated to that position in 1933.

When the 1901 fire almost completely destroyed the city, the Fire Department boasted of only thirty-six men. Today, under Chief Dowling, it consists of nearly 250 men, and equipment that is among the best in the country.

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Turret Pipes
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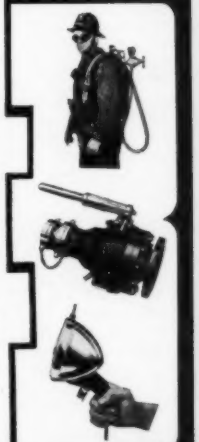
Guaranteed bright at ¼ mile . . . light . . . one-hand operated . . . long-life battery.



WRITE for descriptive folder.

KEROTEST

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PITTSBURGH, PA.

Two Towns Fight Large Fires

Sixty-four persons were forced to flee when fire broke out in the Wellington Hotel in North Adams, Mass. Starting from a fire of undetermined origin, the flames spread rapidly through an areaway extending from the second floor of the hotel to the roof.

By the time the first firemen arrived, the fire had made such headway that a second alarm was sounded bringing all of the city's apparatus, and off-duty firemen. The fire fighters made their first contact with the blaze on the second floor, and battled the fire up story by story until they reached the top floor. The forces were divided so that there were men on each of the five upper floors fighting to keep the blaze from spreading to other parts of the building.

Many times the flames jumped from the south hallway to rooms on the north side, but were soon extinguished, thereby confining the fire to the south section of the hotel. The men had their hardest fight on the top floor where the fire swept the entire south wing from front to rear.

In an effort to bring more water to play on the fire, the emergency standpipes in the hotel were opened, but in almost every case the hose burst. Thus this source of water was useless. The last of the fire was extinguished at 7:30 a.m.

Six days after the Wellington Hotel fire, an old factory in Adams, Mass., which was used for storing quantities of wool, was badly damaged by an early morning fire. The wool made ready fuel for the fire which had had good headway by the time that it was discovered. Two alarms brought all of the members of the Adams Volunteer Department. A light snow, and low temperature, made fire fighting difficult. In addition to water obtained from the eight lines laid to hydrants, the Hoosac River, which flows in back of the mill, was utilized as a source of supply. The water pressure was excellent as was the supply. Fire was confined to the mill building only, and the damage was estimated at $25,000.

Plaques Honor Commissioner Wagner

Few fire commissioners have the distinction of having their names on seven out of ten fire stations, but that is the honor extended to Commissioner Otto Wagner of Elizabeth, N. J.

Dr. Wagner has served the city of Elizabeth thirty years as a municipal official, twenty-seven years of which he has served as Fire Commissioner. It was during this period that the seven stations were built and the bronze plaques which include his name were attached.

He was appointed to the Fire Board on January 1, 1914, the year that the department started purchasing automobile pumping engines to replace the old horse-drawn equipment.

In his twenty-seven years of service to the fire department he has attended twenty-three annual conventions of the International Association of Fire Chiefs, and is an honorary life member of that Association. He also holds honorary membership in the Firemen's Mutual Benevolent Association and the Eastern Association of Fire Chiefs.

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AMERICAN-MARSH PUMPS

Barton-American Midship

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A LOW PRICED MIDSHIP MOUNTED CENTRIFUGAL PUMP

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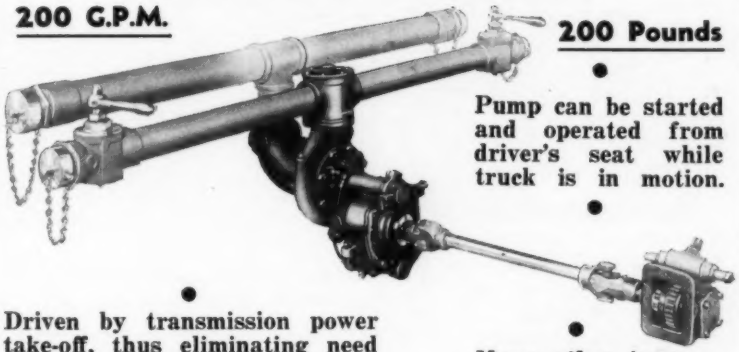
200 Pounds



Pump can be started and operated from driver's seat while truck is in motion.

Driven by transmission power take-off, thus eliminating need of cutting truck drive shaft to mount pump.

Many other types and sizes.

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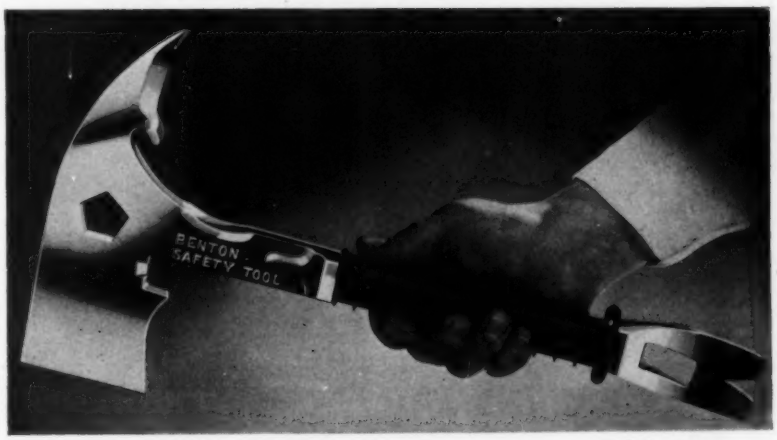

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is as essential as water supply and, in view of the National Emergency, is more important than ever before. Equip each piece of Apparatus and every Fireman with this SAFETY TOOL, in your well equipped, up-to-date fire department, for modern Fire Protection.

It is an Axe and Multiple Purpose Tool, designed for up-to-date Fire Fighters who must meet emergencies in a split fraction of a second's time. It is manufactured from High Grade Alloys and a steel of High Tensile Strength and Ductility.

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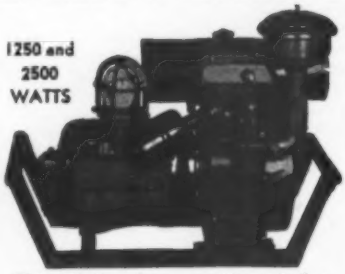

This 1250 watt, portable unit has been designed expressly for fire department use. It is small, light, compact and equipped with carriers for easy portability out on the job. Air-cooled 4-cycle engine 2⅝" bore x 2⅝" stroke. 2.4 H.P. 2 gallon fuel tank. Quick starting. Also 2500 watt size.

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Oklahoma Firemen Meet

The Forty-Seventh Annual Convention of the Oklahoma State Firemen's Association was held in Ponca City, Okla., on June 2-4.

Those present had the opportunity of hearing Olin Culberson, Railroad Commissioner of Texas, and Secretary of the Texas State Firemen's Association, speak on "The Firemen's Responsibility and Duty in the Present Emergency." Frank C. Higginbotham, Secretary of the Municipal League spoke on "National Defense and Oklahoma's Fire Problems." Jerry Atkinson gave a talk on "Fire Prevention" and Guy Postelle, Chief Engineer, Oklahoma Inspection Bureau, spoke on "Automatic Sprinklers."

Carl C. Garner, State Fire Marshal, together with members of his staff led a discussion of important topics.

Sid Bean, Past President of the association also led a discussion of "Civil Service for the Fire Department Should be a Charter Provision."

The program for the last session included addresses by Mac Q. Williamson, Attorney General, whose topic was "New Legislation Relative to Firemen"; Chief G. R. McAlpine, Oklahoma City, who spoke on "Federal Aid for Firemen"; and Chief J. Ray Pence, Stillwater, who covered the subject of "Practical Ventilation during Fire Fighting." In addition, Chief McAlpine acted as Chairman of an open forum.

New Organization Formed

A new organization called the "Smoke Eaters Radio Club" has been formed.

Membership in the organization is open to firemen, both paid and volunteer, who hold an amateur radio license. Volunteer fire department members must serve one year or more in their departments before they are eligible for membership.

The purposes of the club are for members to become better acquainted with fellow radio firemen, to better knowledge of fire department work through radio contact with other firemen, to pass along technical information that may be useful to other firemen and to promote through knowledge and experience with radio, ways and means of extending and safeguarding the alarm system.

GEORGE L. BIRD,
Asst. Chief,
Pawhuska, Okla.

Reading Firemen Greet Brother Firemen in England

Greetings to Reading, England, were broadcast recently from Reading, Mass., with prominent citizens taking part in the program. The program was one of a series that has been broadcast from namesake cities and towns in New England to mother towns across the Atlantic.

Included in this program was Fire Chief Hugh L. Eames who, in greeting the members of the professional and auxiliary fire brigade members, extolled the courage, morale and endurance of the British firemen under the most trying circumstances and praised the training and equipment of the auxiliary force.

FOR HANDY PROTECTION AGAINST SMOKE, WEAR THE NEW, DUPOR No. 20 TWIN SPONGE MASK

SAMPLE $2 Postpaid

- New plastic valve exhausts breathed air.
- Soft rubber mask gives air-tight fit.
- Can be worn with Goggles.
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Thorough drill in their use as covers and catchalls will improve your department's record. Light and easy to handle, they do not freeze even at very low temperatures and will not crack when folded for storage.

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Manufacturers Since 1870
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Landmark Collapses At Fire

One of the oldest landmarks of the South Side, of Pittsburgh, Pa., the 80-year old St. Vincent's Clubhouse located on the hillside, was completely destroyed by a spectacular fire, which extended to and destroyed a two-story and a three-story frame dwelling on April 29th before it was brought under control by firemen called on three alarms.

A steep tin covered roof, with a large belfry-like cupola, enclosed with a number of windows, crashed through the building into the cellar as the flames swept through the old structure, showering the neighborhood with burning embers.

Back of the building, running up the hillside, a row of frame dwelling houses was threatened by the blaze but firemen played streams of water on the smoking buildings and prevented further spread of the flames. The clubhouse was completely burned out, only the four bare brick walls left standing. Burned and buried under the smoking ruins in the basement was the stripped and abandoned equipment of St. Vincent's Literary Association, chartered in 1866 and a center of Catholic community life in the Southside until it disbanded about a year and a half ago.

The three alarms from Station 347, at 8:36, 8:40 and 8:42 P. M. were answered by Eng. 11 and 12, Truck 12 and Battalion Chief John I. Zollinger of the Fourth Battalion, Eng. Co. 30, 19, 4 and Truck 3, Chief of Department Nicholas A. Phelan and Deputy Chief Edward J. Kerr and Eng. 3, 22 and 5, with three 1250 gallon pumpers, one 1000 gallon pumper and three 750 gallon pumpers. Ten pumper streams were used on the fire with 7100 feet of 2½-inch hose in service and 300 feet of one inch lead line hose. The duration of the fire was a little more than six hours. A detail of firemen with the pumper of Eng. 11 were left at the ruins until afternoon the following day.

WM. E. PATTERSON.

Fire Destroys Farm Property

Intense heat, accompanied by high winds, greatly hampered the Friendship Fire Company of Elizabeth, Pa., in its efforts to control a blaze which destroyed farm property beyond the borough's limits. On the arrival of the fire company, the barn was completely enveloped in flames, so the firemen turned their attention to saving the dwelling house.

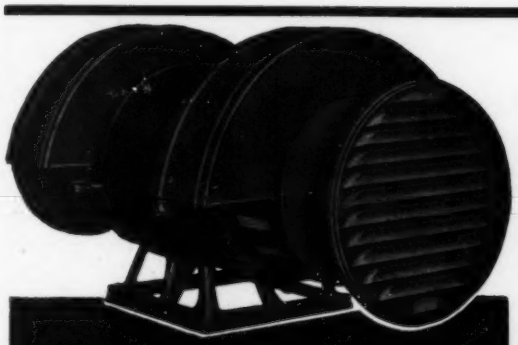
The Rheems and Mount Joy Fire Companies were summoned to assist. Despite their rapid response, the building was completely burned.

Memphis, Tenn., to Order Pumpers

Chief Irby Klinck reports the following apparatus in service at Memphis.

Total No. in Service
Pumpers 20 (8 reserve) Ladder trucks 7
No. over 15 years old
Pumpers—17, 15 of which are over 20 years old.
Ladder trucks—2, both of which are over 20 years old.

In addition, a 1,500 gpm pumper and a 100-foot metal aerial truck is ordered. Also, bids are open for four new 1,000 gpm pumpers.



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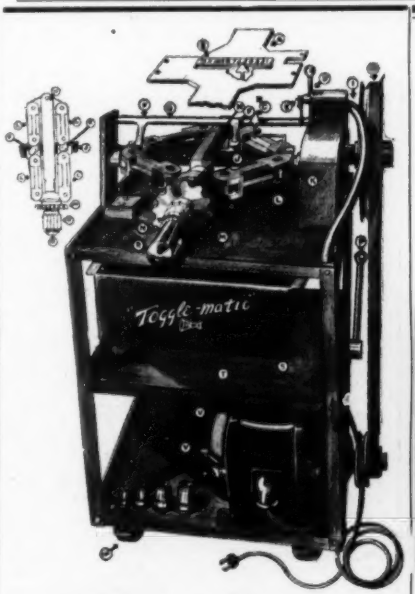

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Convention Dates

July 15-18—MICHIGAN STATE FIRE COLLEGE. Annual Fire College, University of Michigan, Ann Arbor, Mich. Director Dr. C. A. Fisher, Extension Division, University of Michigan, Ann Arbor, Mich.

July 16-17—ONONDAGA COUNTY VOLUNTEER FIREMEN. Annual Convention, Minoa, N. Y. Assistant Secretary, J. C. Shedd, Minoa, N. Y.

July 16-18—MARITIME FIRE CHIEFS ASSOCIATION. Annual Convention, Edmundston, N. B. Secretary, Charles A. Cunningham, St. John, N. B.

July 20-25—TEXAS FIREMEN'S TRAINING SCHOOL. Annual Meeting, A. and M. College of Texas, College Station, Tex. Director of Firemen's Training, H. R. Brayton, A. and M. College of Texas, College Station, Tex.

July 21-25—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 11th Annual State Fire School, West Virginia University, Morgantown, W. Va., Director, G. R. Spindler, 121 Mechanical Hall, Morgantown, W. Va.

July 21-23—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Wausau, Wis. Secretary, A. V. Simon, Ladysmith, Wis.

August—UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, Murray, Utah. Secretary, J. J. Creedon, Bingham Canyon, Utah.

Aug. 4-5—NEW YORK STATE FIRE FIGHTERS' ASSOCIATION. Annual Convention, Syracuse, N. Y. Secretary, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 4-6, 1941—INDIANA FIREMEN'S ASSOCIATION, 25th Annual Convention, Kokomo, Ind. Secretary, Burley Marshall, P. O. Box 725, Terre Haute, Ind.

Aug. 7-9—MONTANA STATE FIREMEN'S ASSOCIATION. Annual Meeting, Glendive, Mont. Secretary, J. A. LaForest, Quartz Street Fire Station, Butte, Mont.

Aug. 11-13 — WISCONSIN PAID FIREMEN'S ASSOCIATION. 34th Annual Convention, Marinette, Wis. Secretary, G. J. Johnson, Racine, Wis.

Aug. 12-15—VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Staunton, Va. Secretary, R. B. Barker, Newport News, Va.

Aug. 13-16—COLORADO STATE FIREMEN'S ASSOCIATION. Annual Meeting, Fire School, and Tournament, Steamboat Springs, Cal. Secretary, Clinton Turnbull, 215 Boston Bldg., Denver, Col.

Aug. 16-17—VERMONT STATE FIREMEN'S ASSOCIATION. Annual meeting, place not fixed. Secretary, W. H. Adams, Vergennes, Vt.

Aug. 17-20—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual Convention, Auburn, N. Y. Secretary, Arthur Bleau, Weslyan Street, Amsterdam, N. Y.

Aug. 19-22 — FIREMEN'S ASSOCIATION STATE OF NEW YORK. Annual Convention, Geneva, N. Y. Secretary, Fred A. Davis, Port Edward, N. Y.

Aug. 19-21—KENTUCKY FIREMEN'S ASSOCIATION. 22nd Annual Convention, Covington, Ky. Secretary, V. A. Beam, 2221 W. Broadway, Louisville, Ky.

Aug. 19-22 — INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 69th Annual Convention, Hotel Statler, Boston, Mass. Secretary, D. B. Tierney, Arlington, Mass.

Aug. 20-23—WASHINGTON STATE FIREMEN'S ASSOCIATION. Annual meeting, Yakima, Wash. Secretary, Hugh Leslie, Auburn, Wash.

Aug. 22-23—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 58th Annual Convention, West Haven, Conn. Secretary, D. W. Hartford, 10 Chestnut Street, South Norwalk, Conn.

Aug. 23-24—REGIONAL FIRE SCHOOL OF HAMILTON COUNTY. Annual Fire School, Koenig Park, Reading, Ohio.

Aug. 25-29 — PENNSYLVANIA FIREMEN'S TRAINING CONFERENCE. 3d Annual Conference, Pennsylvania State College, State College, Pa. Secretary, Charles E. Clark, Box 217, Wayne, Pa.

Aug. 26-29—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual Convention. Peterborough, Ont. Secretary, Chief James Armstrong, Box 56, Kingston, Ont.

Aug. 28-30—WEST VIRGINIA FIREMEN'S ASSOCIATION Annual Convention, Weston, W. Va. Secretary, H. D. Fridinger, Martinsburg, W. Va.

Sept. — NEW HAMPSHIRE STATE FIREMEN'S ASSOCIATION, Annual Meeting, place not fixed. Secretary, A. G. Robinson, Manchester, N. H.

Sept., 1941—IOWA FIREMEN'S ASSOCIATION, Annual Meeting, Chariton, Ia. Secretary-Treasurer, Paul A. Saener, Independence, Ia.

Sept. 2-5—MARYLAND FIRE COLLEGE. 12th

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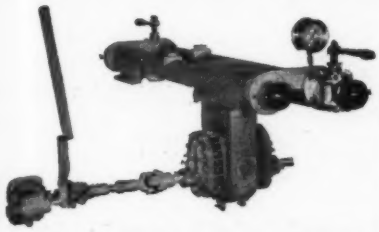

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Sept. 8-10—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. Annual Meeting, Reno, Nev. Secretary, J. W. Stevens, 1014 Merchants Exchange, San Francisco, Cal.

Sept. 9—STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Annual Meeting, Norway. Secretary, Charles W. Bowker, S. Paris, Me.

Sept. 10-11—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Middletown, Del. Secretary, W. W. Pettyjohn, Dover, Del.

Sept. 12-13—NEW JERSEY STATE FIREMEN'S ASSOCIATION. Annual Meeting, Atlantic City, N. J. Secretary, Evan F. Benners, R. 602, 24 Branford Place, Newark, N. J.

Sept. 13-14—OHIO STATE VOLUNTEER FIREMEN'S ASSOCIATION—Annual Convention, Kent, Ohio. Secretary, Sidney Wellock, 2976 S. Main Street, Akron, Ohio.

Sept. 15-17—OREGON STATE FIREMEN'S ASSOCIATION. Annual Meeting, Bend, Ore.

Sept. 22-25—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 19th Annual Convention, Huntington Hotel, Pasadena, Cal. Secretary, H. E. Strasser, 2046 Oregon Ave., Long Beach, Cal.

*Sept. 24-26—TENNESSEE FIREMEN'S ASSOCIATION. Annual Convention, Johnson City, Tenn. Secretary, Joe J. Martin, Nashville, Tenn.

Sept. 25-27—MONTANA FIRE SCHOOL. Annual Meeting, Polson, Mont. Secretary, D. E. Moser, Bozeman, Mont.

Sept. 29-Oct. 2—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. 46th Annual Meeting, Hotel Jefferson, St. Louis, Mo. Secretary, Irving Shulsinger, New York City.

Oct. 2, 1941—WALWORTH COUNTY FIRE OFFICER'S ASSOCIATION. 11th Annual Meeting. Secretary-Treasurer, C. A. Foster, Lake Geneva, Wis.

Oct. 7-9, 1941—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Greenburg, Pa. Secretary, Charles E. Clark, Box 217, Wayne, Pa.

Oct. 14-16, 1941—ILLINOIS FIREMEN'S ASSOCIATION, Inc. Annual Convention, Bloomington, Ill. Secretary, Roy W. Alsip, Champaign, Ill.

Oct. 21-23, 1941—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Norfolk, Neb. Secretary-Treasurer, Louis A. Novak, Box 788, Norfolk, Neb.

*The notices marked with an asterisk are either appearing for the first time or have been changed since the preceding issue.

Collapse of Roof Injures Firemen

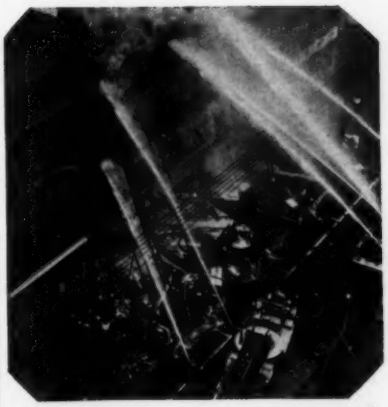
A sudden collapse of the roof and walls of a building during overhauling operations at a spectacular four alarm fire on April 23, had New York City fire officials believing that they had a repetition of the fatal Brockton, Mass., fire on their hands.

Three men were buried under the debris, and it took the combined efforts of some seventy-five firemen, policemen and civilians to get them out. The roof was of heavy construction, being of tar and gravel, and double roof boarding with 4 x 12-inch beams spaced about two feet apart. This was supported in the center for the full length by 4 x 4-inch uprights. There was no advance warning of the collapse. Other firemen working nearby escaped injury by narrow margins.

Carrier Pigeons Aid in Fighting Forest Fires

Racing pigeons, trained by enrolees of the C. C. C. Camp near West Townsend, Mass., have been instrumental in saving thousands of dollars of property by means of messages carried by the pigeons during the recent forest fires near there.

The pigeons have been carried by fire fighting crews into the midst of the fire and messages have been sent back to camp reporting the progress and extent of the fire.



WHERE PRESSURE COUNTS

Flames roaring from the upper floors and the battle is on. PRESSURE is the one vital factor that you depend on in fighting such fires. If the mains in your city are clogged with incrustation you are *not* getting full pressure. RECOMMEND A NATIONAL CHECK-UP of the water distribution system in your city —everybody will benefit.

NATIONAL WATER MAIN CLEANING COMPANY
30 Church Street, New York, N. Y.

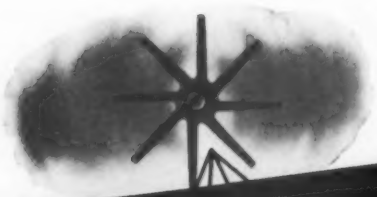
MIDWESTERN FIREMAN'S COAT
With Detachable Lining

This coat, furnished in different materials, has as a special feature a detachable lining, of pure wool. This feature makes it adaptable to all conditions of weather and assures you of the warm, dry protection that only MIDWESTERN can offer, for only $14.20.

Write for Catalog

All Midwestern garments are Union Made, A. F. L.

MIDWESTERN MFG. CO.
MACKINAW, ILLINOIS



A CENTRIFUGAL PUMP THAT PRIMES ITSELF

Just What Does this Mean?

A fire trailer gets the toughest jobs in the book — dirty water, rough handling, constant emergency duty. That's why LaBour's unique Self-Priming Centrifugal Pump means so much in Fire Trailer Service.

A CENTRIFUGAL PUMP with an open impeller is difficult to clog. The large clearances enable this pump to handle sandy water for years with negligible loss of efficiency due to wear. It needs no relief valve, no air chamber. It maintains pressure while running with the outlet or nozzle valves shut off, and delivers full volume instantly when the valve is opened — all without the slightest injury to pump or engine.

THAT PRIMES ITSELF means no automatic device to fail, no human attention required, no connection to engine manifolds. A LaBour Centrifugal is inherently self-priming just like a piston pump — it removes the air from the suction line and then pumps water *with the same impeller and casing.*

If you are looking for real service from a Fire Trailer, be sure to get a copy of LaBour Bulletin 47.

The LaBour Company, Inc.
1577 Sterling Avenue
Elkhart, Indiana, U. S. A.

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"The boys are playing with that MACK pumper again!"

Type 80,750-gallon centrifugal pumper with semi cab — one of six being operated in Fort Worth, Texas.

IT IS THE experience of fire departments the country over that Mack pumpers can be depended upon for superlative performance —that Mack power and stamina live up to the most urgent and gruelling demands of service.

In fact, not in pumping alone, but in every detail of mechanical function, Mack fire apparatus is capable of exceeding the most rigorous official performance requirements. And is singularly free from mechanical failure.

To help explain why Mack apparatus does so well, we offer these few simple truths: That Mack leads the industry in concentrating on the manufacture of vital parts in *its own factories* under very rigid supervision. . . . That Mack's resources, the largest in the fire apparatus industry, are able to support large-scale research and experiment for constant improvement. . . . That Mack provides 70 strategically located direct factory branches for speedy, economical, *efficient* servicing.

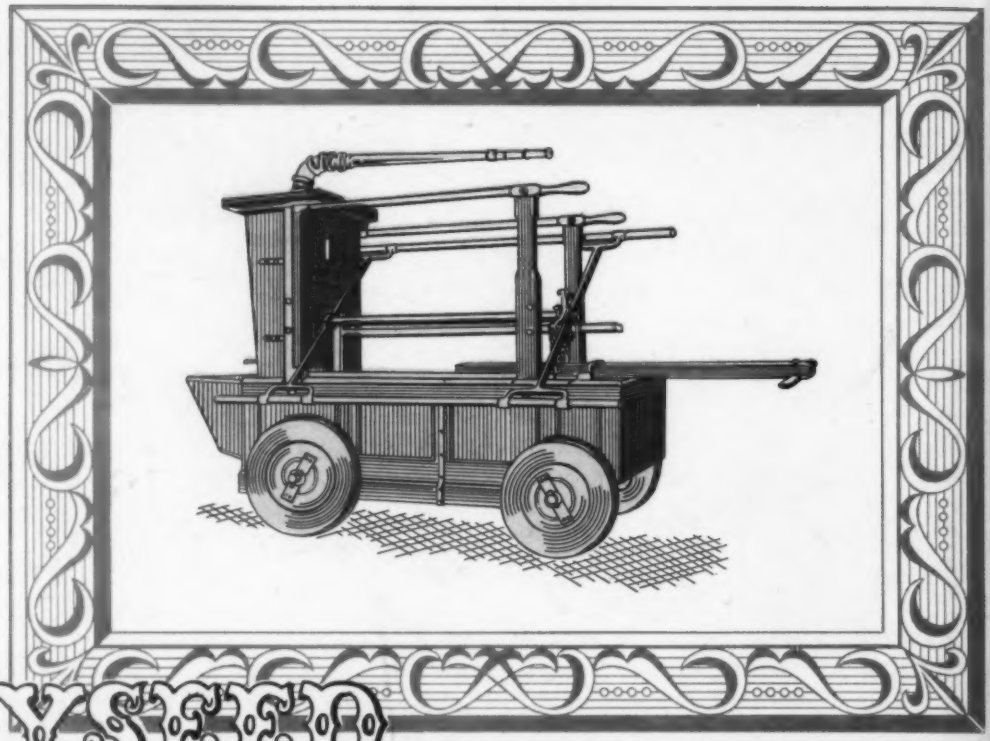
Write for complete information on this superior fire apparatus today.

The Mack Fire apparatus line includes triple and quadruple pumpers from 200 to 1500 gallon capacity, hose wagons, city service ladder trucks, squad cars—comprising 14 distinct and specialized models. Mack is proud of building the best. We invite comparison. We solicit inquiries.

Mack

MACK MANUFACTURING CORPORATION, FIRE ENGINE DIVISION, NEW YORK, N. Y.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*



HAYSEED

COURTESY THE HOME INSURANCE COMPANY

This was New York's first fire engine. Brought over from England in 1731, the Hayseed rumbled to the city's fires on wheels of solid wood rimmed with metal. It was 6'8" long, 22½" wide and had a deck 25" high. The goose-neck tub engine was not equipped with "suctions", but was filled by bucket and operated by pumping handles on the sides and auxiliary treadles on the deck.

Hose had not yet become practical. Water was played from a pipe on top of the air chamber over the rear wheels.

TODAY

The New York City Fire Department is a modern organization with modern equipment. EUREKA Fire Hose forms a substantial part of this equipment.

FOR GREATER PROTECTION TO LIVES AND PROPERTY ——SPECIFY

EUREKA *Streamlined* **FIRE HOSE**

EUREKA FIRE HOSE

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